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AGRICULTURE

No. 85

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STEPS TO ACHIEVE BUMPER HARVEST IN CORN OUTLINED

Beijing RENMIN RIBAO in Chinese 7 May 80 p 2

[Article by Tong Pingya [0157 1452 0068] of the Chinese Academy of Agricultural Sciences: "How Can This Year's Bumper Harvest in Corn Be Realized?"]

[Text] Our nation has nearly 300 million mu of corn. Grasping corn production well has important significance in realizing the whole year's bumper harvest of food grains.

Corn is a high yielding crop. Its unit area yield is the highest among all crops. But the corn in most of our nation's regions is interplanted and planted as multiple crops and average per my yield is only 375 jin, lower than the world's average. The amoung of corn produced at different places in our nation varies greatly. High yield communes and brigades produce 700 to 800 jin of corn per mu while low yield areas produce only 200 to 300 jin. Thus, it can be seen that the potential for increasing corn production is very great.

(1) Grasp Well the Key Task of Sowing to Assure Full Seedlings After One Effort

For many years problems of missing seedlings, broken ridges and insufficient planting density have existed on a widespread scale in our nation's major corn producing regions. Each mu generally misses about 500 to 600 plants. Corn is different from wheat and rice. It depends on the single plant and large spikes to realize high yield. One missing plant means two or three ounces less. For this, sowing must be grasped well to assure each mu has an appropriate number of seedlings. In spring of this year, temperatures in the northern spring corn regions was slightly lower and the soil's temperature must be relied upon to grasp appropriate early sowing. Moisture conditions of the soil must be grasped well in companion planting of corn to assure even budding. In planting corn sown in summer following wheat, the farming time is tight, and thus farm work must avoid being done carelessly, and attention must be paid to selecting early maturing high yield varieties. These measures should be combined with the implementation of a production responsibility system whereby persons assigned to each piece of land are present. If this work is grasped well, an additional 200 plants can be planted in each mu, then an increased yield of 40 to 50 jin of corn can be realized. The entire nation will have an increased yield of over 1 billion jin of corn. In sowing and planting corn, it is important that the seedlings germinate uniformly so that full seedlings can be realized at once. What if the seedlings to not germinate fully at one time? The seedlings could be cultivated in nurturing pots and a part of the seedlings could be produced at the side of the fields half a month ahead of time. Then the seedlings are transplanted to replace the missing seedlings. This can be easily done.

(2) Selecting Superior Hybrid Varieties

Hybrid varieties of corn produce over 22 percent more than ordinary varieties. Last year, seed cultivation was grasped in a big way at each locality. The number and quality of the hybrid varieties have all increased. If this year's area of hybrid varieties is expanded 10 percent, and calculating on an increased yield of 70 jin per mu, a total increase of 2 billion jin can be realized. When each locality selects hybrids, measures must be suited to the local circumstances to avoid serious reduction in yield due to unfavorable weather. When introducing hybrid varieties from other places, experiments and demonstrations must be conducted.

(3) Increase the Application of Chemical Fertilizers, Raise the Percentage of Utilization of Fertilizers

Because at many localities there is the one-sided view of "summer is more important and autumn is less important" and "corn is a coarse food grain," the amount of fertilizers applied in growing corn is generally less and even none is applied. In addition, most of the nitrogenous fertilizers produced in our nation at present is carbonic ammonia. It easily evaporates and its percentage of utilization is less than 40 percent. Measurements indicate that under high summer temperatures, 10 percent of the carbonic ammonia spread on the ground surface will be lost in three days. One jin of carbonic ammonia used as base manure applied deeply or applied as sidedressing in open ditches and then covered with soil will produce a yield of over one and a half jin of corn more than a jin of carbonic ammonia spread on the ground surface.

Base manure should be applied to corn following wheat. Sidedressing should be applied before jointing and heading, phosphorus and potassium are two important elements needed in the growth and high yield of corn. Each locality should increase the application of phosphorus and potassium fertilizers according to actual situations.

(4) Grasp the Work of Disease and Insect Pest Prevention Well

During the young seedling stage of corn, the main insect pest is the army worm. During the latter period it is the corn borer, generally causing a reduction of over 10 percent in yield. The damage caused by disease and insects must not be neglected. Prior observation and forecasting work must be strengthened to fight the offensive war of preventing disease and insect pests well.

(5) Natural Disasters That May Occur This Year Must Be Fully Estimated so as to Make Sure the Disasters Can Be Resisted and Bumper Harvests Can Be Realized

In our nation's northeastern spring corn regions, low temperature cold damage in spring and autumn often occur. In the north China summer corn region, intermittent "waterlogging covering the buds" and "autumn waterlogging" also occur. In the southwest hilly corn producing regions, summer drought is the greatest threat.

Therefore, in doing well ideological work and material preparation to resist disasters and realize bumper harvests, selection and combination of varieties must be planned and appropriate forms of interplanting and multiple planting must be used as well as corresponding measures of drainage and irrigation.

How can the realization of measures be assured? First it is suggested that each major corn producing region assign a responsible cadre to grasp the work personally and place corn at the key position of realizing bumper harvests of good grains for the whole year. The abovementioned key measures to increase yield should be thoroughly implemented in the system of production responsibility. Each region must also organize agricultural scientists to conduct inspections during key stages and to make suggestions and carry out the measures.

Secondly, every kind of material preparation to realize high yields of corn should be done well early, such as transport of seeds, preparation of fertilizers and agricultural chemicals, and inspection of agricultural machinery.

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'RENMIN RIBAO' EDITORIAL ON READJUSTING AGRICULTURE

HK151140 Beijing RENMIN RIBAO in Chinese 9 May 80 pp 1, 2

[Editorial: "Actively and Steadily Readjust the Internal Structure of Agriculture"]

[Text] "The Resolution of the CCP Central Committee on Certain Problems Concerning the Speeding Up of Agricultural Development" pointed out: "It is necessary to change in a planned and gradual way the present agricultural structure and the diet of the people in our country and change the situation in which people have attached importance only to grain cultivation and disregarded cash crop cultivation, forestry, animal husbandry, sideline production and fisheries." Over the past year and more, all places throughout the country have seriously carried out the resolution of the central authorities, readjusted the internal structure of agriculture and changed the situation in which people have carried out one-sided production of grain at the expense of all-round development. While continuing to firmly grasp grain production, they have speeded up the development of forestry, animal husbandry and cash crops. Although the acreage sown to grain throughout the country last year was some 30 million mu less than the year before last, due to the promotion of the per-mu yield, total grain output was some 50 billion jin more than the year before last. Output of oil-bearing crops, sugar beet, silk cocoons and tea was much more than the year before last and cotton output also began to increase.

However, readjustment work was only beginning. The proportion of forestry, animal husbandry, sideline production and fisheries in the total value of agricultural output as a whole is less than one-third. The output value of cash crops accounts for about 30 percent of all cultivated crops, the irrational structure of agriculture has not been changed and has seriously impeded the rational exploitation of resources. On the basis of summing up experiences, we must persist in readjustment work. Places which have not begun readjustment must immediately begin to grasp this work. On the whole, we must strive to do a good job of readjusting the arrangement of agriculture in 3 to 5 years and lay a good foundation for building a rational structure of the agricultural economy.

To readjust the internal structure of agriculture, we must implement in an all-round and correct way the principles of "simultaneously promoting agriculture, forestry, animal husbandry, sideline production and fisheries" and "taking grain as the key link, insuring all-round development, taking such measures as are suitable to local conditions and carrying out appropriate concentration." It was and still is necessary to pay great attention to grain production. However, earlier one-sided development of grain without regard to the special features and natural conditions of individual places and at the expense of cash crops, forestry, animal husbandry and fisheries, even to the extent of destroying grasslands, forests, ponds and reservoirs, upset the ecological balance and impeded the rational use of natural resources. The speed of the development of grain production in some places dropped. This is a serious lesson. To readjust the internal structure of agriculture, we must gradually change the previous irrational arrangement caused by the one-sided development of grain and, in conjunction with the general survey of natural resources for agriculture and in accordance with the natural and economic laws, we must take such measures as are suitable to local conditions to arrange agriculture, make full use of resources, bring local natural superiority into play and tap the potentials of all aspects to coordinate and promote agriculture, forestry, animal husbandry, sideline production and fisheries, gradually create a rational ecological environment and guarantee the steady development of agricultural production.

To readjust the agricultural structure, we must have a clear-cut guiding ideology: We must strive to bring our superiority into play, go after gains, avoid losses, learn from the strong of others' points to offset our weaknesses and achieve the best economic results. Taking grain as the key link and insuring all-round development is a general principle throughout the country. However, not all provinces, municipalities, autonomous regions, prefectures, counties, communes and brigades are required to "take grain as the key link and insure all-round development" and not all places are required to build a small, complete and self-sufficient economic structure. Many years of practice have proved that the economic results of the small, complete and self-sufficient economic structure have been very poor and not beneficial to the development of economic construction. In light of their own natural and economic superiority, all places must take such measures that are suitable to local conditions, carry out appropriate concentration and build up the structure of the agricultural economy which is suited to local conditions and possess their own special features. For example, the central part of Jilin Province, which is suitable for cultivation of grain, must vigorously develop grain production; the grasslands of Nei Monggol, which are suitable for breeding livestock, must vigorously develop animal husbandry; and Jiangsu and Hubei provinces, which are suitable for growing cotton, must vigorously develop cotton production. A province must pay attention to bringing its superiority into play and a county, a commune and a brigade must also do so. On the basis of taking such measures as are suitable to local conditions, we must carry out appropriate concentration, and regionalized and specialized production. This will be beneficial to promoting yields per unit area and the agroscience technology and labor productivity of the peasants, to making full use of natural resources and to promoting the rate of agricultural products to be sold as commodities.

To readjust the internal structure of agriculture, we must adhere to the principle of activism and steadiness. The key to whether or not the attitude is active and the steps are steady lies in the correct view of the problem of grain production. Grain is the chief necessity of the people's livelihood and also the most important material foundation for achieving stability and unity throughout the country. At present, our grain is still in short supply. When we criticize the erroneous one-sided production of grain, we must firmly grasp grain production without wavering. We say that we cannot grasp one-sided grain production and that the aim is to implement the principle of agricultural production in an all-round and complete way. Only by taking such measures as are suitable to local conditions can we make agriculture develop in an all-round way. Only by promoting agriculture in an all-round way can we more effectively solve the problem of grain production.

We must both guarantee a steady increase in grain production and readjust the internal structure of agriculture. How can we resolve this contradiction? The practice in all places has proved that we must first work hard to promote the land utilization ratio and land productivity. The arable land in our country is only slightly over 10 percent of the total land area in our country. On the one hand, we must fully use our existing arable land, endeavor to turn extensive cultivation and poor harvests to high yields and good harvests and to improve low-yielding fields. On the other hand, we must widen our field of vision and fully utilize our natural resources. We have a large number of barren hills and uncultivated land which are suitable for forestry and animal husbandry and have extremely great potentials. If we make full use of them, we can abolish what is harmful and promote what is beneficial. Our country has an abundant reserve of labor forces and, under the guidance of the correct production principle, we can completely widen the road of agricultural production.

Some comrades have taken a passive attitude toward the readjustment of the agricultural structure. They have felt that "when they cannot fulfill or overfulfill the target for grain production laid down by the national program for agricultural development, they do not have time to attend to other things." This is incorrect. The practice throughout last year has proved that so long as we emancipate our minds, get rid of the traditional concept of a single-product agricultural economy, conduct penetrating investigations and study and fully understand the profound lessons of the vicious cycle caused by one-sided production, there will be plenty of scope for readjustment under the present conditions. Of course, readjustment must be made in light of the reality. Since different provinces, prefectures and counties have different natural conditions, economic levels and foundations of work, we must not repeat the previous subjective demands and erroneous attitude of "why can other places not do the things we can do?" If rigid uniformity is sought without regard to objective conditions, things will certainly go contrary to our wishes and the natural law and nature will pay a penalty. Such lessons should not be repeated.

To readjust the internal structure of agriculture, we must link the plans and guidance of the state with respecting the self-management rights of communes and brigades. In the past, it was customary for the upper levels to give instructive plans for production to the lower levels. Since these plans rigidly specified the sown areas, the production teams could not suit measures to local conditions and carry out rational cultivation and readjusting the internal structure of agriculture practically became empty talk in some places. Last year, some places changed this method and gave only the index for grain output and the procurement task to communes and brigades. They were then able to suit the measures to local conditions and to rationally make arrangements for cultivation after fulfilling the index for grain output and the procurement task. This reform of the plans and system is beneficial to the readjustment of the internal structure of agriculture. On the premise of guaranteeing the steady increase of grain, some places with high grain yields must properly readjust the range of increases which will benefit the promotion of agriculture, forestry, animal husbandry, sideline production and fisheries and the development of cash crops and diversification. It is necessary to do this. We must sum up the effective methods of all places to make them better able to meet the requirements of the development of production and the readjustment of the internal structure of agriculture.

CSO: 4007

NATIONAL

CONTROL SOIL EROSION THROUGH AFFORESTATION

Beijing GUANGMING RIBAO in Chinese 10 Mar 80 p 2

[Article by Li Changzhe [2621 2490 0772] of the Institute of Forestry of the Chinese Academy of Forestry: "Create Numerous Conservation Forests in Places Where There Is Soil Erosion"]

[Text] Mountains and hills account for one-third of our country's total area. They support about one-third of the population, and cultivated land in those areas amounts to about 700 million mu. For a long time (particularly for the past 100 years), because natural headwater forests have been severely damaged, the ecological system of rather vast regions has produced a vicious cycle.

Nature punishes without mercy. Because water resources lacked the conservation that forests provide, the silt carried by many rivers throughout the country steadily increased. Because of the raising of the riverbed of some rivers, the narrowing of their channels has reached alarming proportions. Great erosion has caused many reservoirs to silt up, and some have had to be abandoned. Statistics from departments concerned show that for the past several years the washing away of soil in the Yangtze River Basin annually has averaged 2.4 billion tons, and each year 430 million cubic meters of silt goes into the Yangtze River. If 70 percent of this silt is calculated as being deposited in the river, then the key Gezhou Dam water-control project that is to be built will annually accumulate 301 million cubic meters of silt. This is almost equal to the 310 million cubic meters of silt deposited in the Sanmen Gorge Reservoir on the Yellow River. Consequently, people are really concerned that the key Gezhou Dam water-control project will become "another Sanmen Gorge Reservoir."

The main reason that the Yangtze River is in danger of becoming "another Yellow River" is attributable to the serious damage done to forests in the Yangtze River Basin (particularly in its upper reaches). Deserving of attention is the fact that the Yangtze River Basin enjoys copious rainfall, and that the southwestern forest region located in the upper reaches of the Yangtze is a rocky mountainous area where slopes are quite steep and the layer of soil thin. When forests are destroyed there, not only is the surface of the soil likely to wash away, but gravitational erosion is also likely to occur, with landslides as well as mud and rock flows. The soil on which the forests depend will be rapidly eroded to bedrock or to the red soil parent material. This is obviously different from the loess lands. Though erosion of the loess lands is severe, a very thick quantity of yellow soil remains there to provide an excellent material foundation for the development of production. Thus it may be said that the consequences of sudden development of erosion in the high mountains, gorges, and valleys of the Yangtze River Basin are more serious than for the loess lands. I believe that the needs of national development require the opening of the southwestern forest regions, but the function of those forests in preserving the Yangtze River must be borne in mind. If it is not, then just as quotas for lumber increase annually at the present time, with quotas being raised at each level all along the line, it won't take many years of use before the forests of the southwest, which play such an important part in the conservation of war resources, will be in danger of being cut bare.

When we build reservoirs, in particular large reservoirs, we do it to prevent floods and promote what is beneficial. They are major projects lasting a hundred years or a thousand years; however, it is also necessary to consider the problems involved in construction and the protection of watershed forests. At the present time, many reservoirs throughout the country cannot achieve their goal of preventing floods or providing benefits because of the accumulation of silt in them. A survey of 33 large and medium-size reservoirs by units concerned has revealed that 16 are more than half filled with silt. The average limit of use for these reservoirs is only 13 years. In order to solve this problem of silting in reservoirs, the basic method is to build water resource conservation forests. By way of illustrating this matter, two examples are given below:

The Fengman Reservoir, located in the upper reaches of the second Songhua River in the northeast, has a capacity of 10.78 billion cubic meters of water. The reforesting of the primeval forests at the source of the second Songhua River, the Changbai Mountains, played an extraordinarily great role for the reservoir. In the 27 years since the reservoir has been built, only 142 million cubic meters of silt have accumulated in it. This amounts to 1.3 percent of the capacity of the reservoir. At this rate, even 1,000 years after the construction of the Fengman Reservoir, silt accumulations will amount to only 49 percent of the reservoir's total capacity.

The Sanmen Gorge Reservoir, on the mainstream of the Yellow River, has a capacity of 7.7 billion cubic meters of water. Between 1958 and 1973, silt accumulation in it amounted to 4.55 billion cubic meters, or 59 percent of its total capacity. At this rate, it will be completely filled with silt within 24 years. The Sanmen Gorge Reservoir, moreover, has never stored floodwaters year after year in the period since it has been built. When it did store floodwaters from September 1960 until March 1962, the amount of silt entering the reservoir amounted to 1.645 billion cubic meters, and the amount of silt deposited was 1.529 billion cubic meters. Between July and October 1964, when it controlled a flood, silt entering the reservoir amounted to 2.724 billion cubic meters. The silt deposited that year amounted to 1.952 billion cubic meters. Were the Sanmen Gorge Reservoir to store floodwaters year after year, it would become completely silted up after a few years' use. The main reason for the accumulation of silt in the Sanmen Gorge River is a thousand li of barren loess lands along the middle reaches of the Yellow River that are crisscrossed with gullies vertically and horizontally where erosion is extremely serious.

From the example of these two reservoirs--the Fengman Reservoir, which "will last a thousand years," and the Sanmen Gorge Reservoir, which is silting up badly--it may be seen that the function of forest conservation of headwaters is extraordinarily obvious. Perhaps some would ask whether, since the Changbai Mountains are a primeval forest region, a manmade headwater conservation forest might be equally effective. Please see the two examples given below.

The Tingqi Reservoir in Fujian Province is a medium-size reservoir with a storage capacity of 45.5 million cubic meters of water. During the 23 years since the reservoir was built, thanks to the planting of forests on 85 percent of the barren Yilin Mountains surrounding the reservoir area, silt deposits in the reservoir amount to only 130,000 cubic meters, or 0.2 percent of the total capacity of the reservoir. At this rate it will take 9,000 years for this reservoir to fill up with silt. Once the forest was created, an increase occurred in the amount of water supplied from the reservoir, with a 1.7-fold increase in the irrigated area.

In August 1975, a great rainstorm such as is rarely seen took place in the basins of the Hongru River, the Shaying River, and the Tangbai River in southern Henan. From 800 to 1,000 millimeters of rain fell in the course of 3 days, causing a breach in the dams of the Shimantan Reservoir and the Banqiao Reservoir and producing a serious flood. Meanwhile, the Baoshan Reservoir and the Dongfeng Reservoir escaped unscathed under identical conditions. The main reason for the different outcomes was that the Shimantan Reservoir and the Banqiao Reservoir had only 20 percent forestation in the area around the reservoirs. The waters in the reservoirs were ordinarily turbid, and 20 centimeters of silt accumulated in them annually. Sometimes there was as much as 30 or 40 centimeters. The upper reaches of the Baoshan and Dongfeng reservoirs and the area around the reservoirs, on the other hand, had a forestation rate of more than 80 percent. The water in these reservoirs sparkled all year round, and silt deposits amounted to only 1.5 millimeters annually. Since the forests held back the falling water during rainstorms, preventing runoff, the flood peak was lessened and the time for the floodwaters to reach the reservoirs extended. It may be seen that headwater conservation forests can also play an effective role during particularly heavy rainstorms.

As regards the economic effectiveness of building headwater conservation forests, this is the arithmetic: statistics show that silt accumulations in 43 large and small reservoirs in Shanxi Province average 50 million cubic meters annually, for an annual waste of capital amounting to 7 million yuan. In Shanxi, 192 reservoirs average 30 million cubic meters of silt deposits annually; this is equal to the expenditure of 4.2 million yuan. As a result of silt deposits in the Sanmen Gorge Reservoir (every cubic meter of capacity calculated from a single corner), losses each year run to more than 30 million yuan. If the capital thus lost were to be put into the planting of forests, the pace of planting of headwater conservation forests and the greening of our motherland would proceed much faster.

In order to improve the conditions of production in agriculture and the livestock raising industry in our country, as well as to improve the ecology, it is proposed that, beginning now, the planting of headwater conservation forests be done on a large scale and in a planned way in areas of erosion throughout the entire country. Leadership organizations concerned should treat as a strategic task this great project for the prosperity of children and grandchildren of future generations. The state should also provide the necessary capital. In order to make this work proceed smoothly, an unswerving policy of ownership rights to forests must be implemented that will give ownership to whoever does the planting. There has to be a rational plan on a nationwide scale for the planting of headwater conservation forests, and this will require the cooperative tackling of problems by administrative and research organizations in agriculture, forestry, water conservancy, hydropower, and meteorology. Additionally it will be necessary selectively to set up various overall research centers or cooperation networks focusing on forests, so that planned construction of these projects will be carried out on a scientific footing.

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IRRIGATION ALONG LOWER REACHES OF YELLOW RIVER IMPROVED

Hong Kong ZHONGGUO XINWEN in Chinese 20 Feb 80 p 7

[Article: "Great Accomplishments Along Lower Reaches of Yellow River in Use of River for Irrigation"]

[Text] Last year bumper crop harvests took place on 16 million mu of farmland in Henan and Shandong provinces that were irrigated by the waters of the Yellow River. A gratifying change occurred in the appearance of 58 low yield counties in 13 prefectures and municipalities along the banks of the Yellow River.

The Yellow River has been historically notorious as a river of destruction and the people who live along the lower reaches of the Yellow River have eaten a full measure of sorrow from the river's destruction. After the founding of new China, the People's Government devoted large amounts of financial and material resources to build 70 irrigation culverts and sluice gates along the dikes of the Yellow River. It also built 55 siphonage projects there and built thousands of main channels, connecting channels, and branch channels. It dredged and dug countless drainage streams and ditches in the initial construction of 90 large and small irrigation zones. The area of irrigation control amounted to 24.5 million mu, and the area of actual irrigation amounted to 16 million mu with an annual water volume for irrigation amounting to something in excess of 9 billion cubic meters. In the past, these were areas of low and inconsistent grain yields, but with the beginning of irrigation remarkable rises have occurred in grain yields. The Liuzhuang irrigation zone in Heze County in Shandong Province has 240,000 mu of cultivated land. In the past a good grain harvest amounted to no more than 200-odd jin per mu, but once irrigation with the waters of the Yellow River began, the yields rose year by year and in 1979 per mu yields reached 578 jin. Great development has also taken place in forestry, livestock raising, sideline occupations and fisheries. Yuanyang County in Henan Province has historically been notorious as a disaster area. Of the 800,000 mu of cultivated land throughout the county, more than 200,000 mu are a vast white expanse of alkaline flats, and 100,000 mu are barren desertlands. Since irrigation by the Yellow River began in 1968, the people here have converted large stretches of sandy alkaline soil deposits into fine fields, and grain yields have risen by a great extent. In 1979, per mu grain yields reached 623 jin with total yields for the entire county amounting to 413.32 million jin. Use of irrigation water to grow rice is an effective measure in the transformation of low-lying and easily waterlogged alkaline land, and in the improvement of grain yields. Last year, both Shandong and Henan provinces developed 1.5 million mu of rice fields along the course of the Yellow River.

The waters of the Yellow River carry large amounts of silt. Clearing away this silt becomes a great problem in use of the Yellow River for irrigation. The people in the irrigation zone distilled many workable methods for doing this from their own experiences, methods that not only reduced the amount of labor required to clear away the silt, but also used the silt to improve the soil to convert more than 2.9 million mu of powdery, alkaline, low-lying land into find fields.

In order to make fullest use of the silt resources of the Yellow River, the Ministry of Water Conservancy recently convened in Xinxiang City in Henan Province a work conference on use of the Yellow River for irrigation in its lower reaches at which there was an exchange of experiences, discussion and formulation of measures to handle the irrigation zone.

9432
CSO: 4007

NOTED CHINESE BOTANIST REPORTS ON TIBETAN FLORA

OW260920 Beijing XINHUA in English 0800 GMT 26 May 80

[Text] Beijing, May 26 (XINHUA)--"The total number of plant species endemic to Tibet is 955." This statement was made by Wu Zhengyi, director of the Kunming Institute of Botany of the Chinese Academy of Sciences, at the symposium on the Qinghai-Tibet plateau here today.

Professor Wu, who is engaged in botanical research on the plateau, was discussing the origin, development and regionalization of Tibetan seed plants.

The well-known botanist and his colleagues have accumulated abundant data on expeditions to the Qinghai-Tibet plateau that have convinced them that the area, with an average elevation of over 4,000 metres above sea level, was beneath the sea 40 million years ago.

Parapteropyrum, an endemic genus of seed plant, was found in the Yarlung Zangbo River valley. It dates back to the tertiary period. The fact that a closely-related genus grows near the Mediterranean, provides evidence for the theory that the plateau was once a vast sea and parapteropyrum has remained since the regression of the Tethys Sea.

The Qinghai-Tibet plateau, the highest and youngest such area in the world, resulted from rapid uplift and so has numerous ecological conditions within a short range of altitude. This gives rise to differentiation and development of plants and many new species.

Once considered a "barren land", the plateau is in fact rich in natural resources.

Wu Zhengyi pointed out in his dissertation, "Within the boundaries of the Qinghai-Tibet plateau, there are not only cold temperate areas, but also tropical. On the southern flank of the Himalayas, often within a distance of ten to a hundred kilometres at different altitudes, climatic changes exist similar to Hainan Island and Heilongjiang."

Professor Wu continued, "The greatly diversified and extremely complicated plant resources on the plateau have great potential for exploitation and utilization."

On every expedition to the plateau since the founding of the People's Republic, botanists have been included. These scientists have collected over 70,000 specimens.

"The Tibetan flora", a monumental work in five volumes, has been compiled. In it are listed 208 families, 1,258 genera and 5,766 species of higher plants on the plateau. It will soon be off the press.

CSO: 4020

PRC SCIENTISTS STUDY JELLYFISH LIFECYCLE

OW240910 Beijing XINHUA in English 0821 GMT 24 May 80

[Text] Shenyang, May 24 (XINHUA)--Chinese marine biologists have uncovered the mystery surrounding the life cycle of the jellyfish (Rhopilema Esculenta). By the end of last year, they had for the first time succeeded in culturing jellyfish in the laboratory and acquired full information concerning its breeding, growth and metamorphosis.

The scientists have observed the different stages of growth of jellyfish (a kind of matured medusa) from the fertilized egg to the young medusa and the role of sexual reproduction and asexual reproduction in the life cycle.

The jellyfish after processing becomes a valuable marine product abundant in protein and vitamins. It is a popular sea food in China, Japan, Korea and Southeast Asian countries. Because of its economic value, marine biologists have shown great interest in being able to forecast the catching season and find out why the supply varies so much from year to year.

The fertilized egg and the planula of the jellyfish are extremely tiny. This fact plus the depth of their sea habitat and the radical changes of form in their early life stages have contributed to the difficulties experienced by biologists in trying to trace and observe the life cycle and collect specimens under natural conditions.

About two years ago, scientists at the Liaoning Provincial Marine Products Institute at Luda City began research on the jellyfish. They attempted to acquire specimens of jellyfish planula under natural conditions but were unsuccessful. They changed to the method of cultivating jellyfish in the laboratory and by autumn of last year had succeeded in getting fertilized eggs and planula from mature medusa, realizing a breakthrough in the research.

According to Wu Jingnan, the deputy director, and Ding Gengwu and Chen Jiekang, assistant research fellows in charge of the project at the institute, the jellyfish has a short period of maturity, but is very fertile, assuring large quantity reproduction under good breeding conditions. Their research has made it possible to discover the causes for big fluctuations in jellyfish supply and pave the way for large scale artificial cultivation.

CSO: 4020

BRIEFS

NEW SOYBEAN VARIETY--Jilin Province has discovered a soybean that is a new green skin pole climbing variety. In the course of a survey of wild soybean resources throughout the province, the Jilin Provincial Agricultural Institute discovered in 1978 a green skin wild growing variety in Shuangliao County. As a result of three different plantings and two further searches of the place where it originally grew, its characteristics have been found to be stable. Recently as a result of an appraisal by relevant units of the Chinese Academy of Sciences it was considered to be a new variety of soybean, named green skin pole bean, and listed among China's flora. Relevant data record three varieties of soybeans: wild soybeans, cultivated soybeans and semi-wild broad-leafed pole beans. The discovery of the green skin bean adds a new category of soybeans. Moreover, the wild variety of soybeans possesses valuable properties not possessed by cultivated soybeans, which will be of future importance as hybrid parent pairs in producing disease resistant varieties, high protein varieties, and even bumper yield varieties. They will also become important future material in the study of the origin, evolution, ecology, classification, genetics and physiology of soybeans. Consequently, discovery of the green skin pole bean has extreme significance for the propagation of soybeans and for their theoretical study. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 8 Mar 80 p 7] 9432

HYBRID RICE--Our country has achieved advanced international standards in its rice research, seed propagation, and spread of varieties. In the fields of seed propagation and spread of varieties, in particular, it occupies a leading position. Our country began propagation of hybrid rice in 1965, and succeeded in 1973 in the matching of three lines to form a hybrid. The production picture subsequent to 1974 resulting from the spread of the four principal varieties--Shanyou, Weiyou, Siyou and Nanyou--shows general per mu increases of more than 100 jin over conventional varieties. In some places where levels of production were low, increased yields amounted to several hundred jin. These several superior varieties show strong tillering with less than 2 jin of seeds being required to plant a mu of land, while planting of conventional varieties requires 30 jin of seeds. Seed propagation is the crux of the spread of hybrid rice. It is an exceptionally complicated task and for this reason more than 100,000 persons were trained in seed propagation techniques on Hainan Island by agricultural units during 1976 and 1977. When the technicians trained during the past several years in various provinces are added to this number, seed propagation technicians in our country number more than 200,000. The level of seed propagation has risen during the past several years as a result. As of 1979 the average annual harvest from seed fields averaged between 60 and 70 jin. In 1974 when hybrid rice began to be popularized in our country, the area planted amounted to only several hundred mu. Subsequently, as a result of the striking increased yields from hybrid rice, the area to which they were spread rapidly expanded to 13 southern provinces, municipalities and autonomous regions. As of 1979 the area planted to hybrids had spread to 76 million mu for an increase in grain production of 780,000 jin. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 14 Feb 80 p 4] 9432

JOINT ENTERPRISE COMPANY--Beijing, 26 Apr--With the approval of the State Agricultural Commission, the China State Farm Land Reclamation Agriculture-Industry-Commerce Joint Enterprise General Company was recently established. The company's mission is to familiarize itself with the conditions in the agriculture-industry-commerce joint enterprises being run on a trial basis by the country's state farm and land reclamation system; to survey and help solve problems facing these enterprises; to organize exchanges of their products; to facilitate the marketing of their products; to engage in import and export trade and technical cooperation; to raise funds and run trans-region enterprises with the joint enterprises of all provinces, municipalities and autonomous regions. The general company will use economic means to manage its operation. [Beijing XINHUA Domestic Service in Chinese 0147 GMT 26 Apr 80 OW]

SUNFLOWER PRODUCTION--Beijing, 3 May--This year China has planned to sow some 8 million mu of sunflower during the spring, or 50 percent more than last year. According to statistics from Jilin, Liaoning, Nei Monggol, Ningxia, Shanxi and Hebei sowing of sunflowers has been completed in most places. Over the past few years, departments concerned have energetically promoted sunflower production so as to increase output of edible oil. Over the past 3 years, sunflower production bases have been established in Heilongjiang, Jilin and Ningxia. [Beijing XINHUA Domestic Service in Chinese 0157 GMT 3 May 80]

CROP, WILD PLANT SAMPLES--Beijing, 3 May--Chinese agro-technicians and peasants have collected some 29,000 samples of crops and related wild plants since last June. The operation involved some 2,500 agro-technicians and 40,000 peasants in more than 20 provinces, municipalities and autonomous regions. Among the samples collected were a number of rare and precious strains such as: rice with 200 to 300 grains per ear as against 100 for ordinary strains; high-yielding rice resistant to cold, blast, lodging and waterlogging; soybean with tall stalks, abundant branching, more pods and big seeds; cold-resistant corn adapted to poor soil and with a short growth period of 60 days; rare wheat mutations; wild soybean strains with protein content five to ten percent higher than that of cultivated varieties. The survey and collection began last June in response to a call issued by the Chinese Ministry of Agriculture and the State Scientific and Technological Commission. The collection, preservation and study of the samples are believed to help the development of China's agriculture. [Text] [Beijing XINHUA in English 0700 GMT 3 May 80 OW]

BEIJING DUCK RAISING--Beijing, 12 May--Three million Beijing ducks are produced in Beijing annually for domestic and foreign markets. Roasted Beijing duck is widely known for its tender, crisp meat. Beijing veterinarians and duck raisers have cooperated to improve the diet and feeding methods. Traditional feed was duckweed. Multivitamins and microelement used in recent years speed up the duck's growth and weight gain. Previously fed by hand, ducks are now fed by machines. New strains that grow rapidly, have a big body size and lay more eggs have been selected. The raising of Beijing duck has had a history of over 300 years. Beijing duck is raised in almost all parts of China now. Beijing duck was introduced to the United States and Britain as early as 1873, and to Japan in 1888. At present, the duck is raised in more than 20 countries, including Korea, Indonesia, Vietnam, Tanzania, Canada, Afghanistan and Norway. [Text] [OW131325 Beijing XINHUA in English 1252 GMT 12 May 80 OW]

MECHANICAL SHEARING CLASS--Xining, 9 May--A group of 72 trainees of various nationalities from pastoral areas in Qinghai, Gansu and Sichuan provinces have been given lessons on theoretical and technical knowledge of mechanical shearing at a recent training class in Qinghai for the purpose of popularizing the technique. Qinghai is one of China's major stockbreeding centers. The trainees included technicians and workers in charge of mechanization of animal husbandry in local units and shearers from pastoral communes. They are of Han, Tibetan, Mongolian, Hui, Tu, Kazak, Yugu and Yi nationalities. The courses covered electrical engineering, principles of engines and shearing machines, shearing technique, wool-bundling machines and devices for sheep-dipping. The trainees also learned about shearing, and installing, fitting and blade-whetting of the shearing machines. [Text] [Beijing XINHUA in English 1504 GMT 9 May 80]

CSO: 4007

BRIEFS

RICE SEEDLING CONFERENCE--The Anhui provincial people's government held a telephone conference on rice seedlings on 30 April. Yang Weiping, secretary of the provincial CCP committee and vice governor of the province, presided, and Vice Governor Meng Fulin spoke. The growth of early rice seedlings in some areas south of the Huaihe River has been seriously affected by the low temperatures since early April, and some seedlings have begun to rot or even decay. The meeting called on all localities concerned to take urgent measures to prevent seedlings from further rotting so as to fulfill this year's task of early rice planting. The meeting also called for replanting seedlings to replace the rotten ones, preventing waste of seedlings, readjusting distribution of seedlings and strengthening field management of rice seedbeds to prevent seedlings from further rotting. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 2 May 80 OW]

CANAL COMPLETED--Hefei, 7 May--The 134-kilometer long man-made river was completed and filled with water on 5 May. Named Ciweixin River, it is one of the major projects for harnessing the Huai River. The project was begun in the winter of 1971, suspended in the spring of 1977 and continued in November 1979 after the party put forward the principle of "restructuring, readjustment, consolidation and improvement." Its benefits are flood prevention, drainage, irrigation and navigation, draining an area of 50,000 square kilometers across Anhui and Henan provinces and irrigating 1 million mu of farmlands immediately and 2 million mu in the future. [Beijing XINHUA Domestic Service in Chinese 1131 GMT 7 May 80 OW]

CSO: 4007

BEIJING

AFFORESTATION, GRASSLAND PLANTING SUCCESS FOR 1979 REPORTED

Beijing BEIJING RIBAO in Chinese 11 Mar 80 p 1

[Article by Liu Changle [0491 7022 2867]: "Municipal Tree Planting and Grass Growing Successful in This City Last Year; Active Preparations Currently Underway To Start an Upsurge in Spring Greenery"]

[Text] Municipal authorities concerned report that many achievements were made last year in municipal grassland and afforestation work. Planting of 920,000 trees was done by the eight districts of the city plus the close-in suburbs and villages throughout the neighboring county to exceed the planned task by 84 percent. It was the best of the past several years in completion of plan. The survival rate for the planted trees was 94 percent, which was also higher than that of the past several years. Some plants and mines for which there is an urgent requirement for environmental protection showed striking accomplishments in greening work done, as for exemple the Capital Steel Company, which planted more than 80,000 trees last spring to make great changes in the appearance of the plant's exterior. The Xiaowuji Petroleum Station, 36 post and telegraph offices, and some newly built units and newly built dwellings in the Temple of Heaven Nanli residential district have all carried out a timely greening program to expand the city's area of green cover. A focus for greening and refurbishing has been five old residential districts of the city of Xinxingli, Hufang Road, and Hujialou where not only was greening of courtyards done, but some districts also repaired or built flower beds and canopies, and installed garden seats in an effort to provide the broad masses of the people with a fine living environment. Good achievements were also seen in the greening of parks and gardens. The principal focus of this greening has been on main thoroughfares at Qiansanmen, the North Street Temple to the Moon and Chaoyang Road. The emphasis on greenery in public parks was on improving quality and artistry in gardens, both of which have shown good results. Last year there was also a vigorous municipal lawn planting campaign, which was done by fitting methods to local situations. A total of 480,000 square meters of lawn was planted, and the survival rate in most areas has been greater than 80 percent.

This spring is the first tree planting season of the 1980's. In order to do a better job with municipal greenery, municipal units concerned have already done a large amount of preparatory work. The entire city and close-in suburbs plan to plant 500,000 trees, of which the masses will plant 380,000. Emphasis will be on newly constructed units, newly constructed residential districts, refurbishing of sub-districts and large units stationed in Beijing, and large plants and mines. There will be a special planting of 120 trees focusing on the international airport and new construction, the rebuilt Dongerhuan Road, Xisanhuan Road, Chegongzhuang Road, Jianguomen Lijiao and the Summer Palace, Taoran Pavilion, and the Youth Lake Park. Plant also call for establishment of 600,000 square meters of lawns throughout the city. This year each nursery of the Bureau of Parks plans to turn out 450,000 young saplings and provide 60,000 square meters of sod.

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CSO: 4007

BEIJING

BRIEFS

PINE MOTH CONTROL--My county [Pinggu] has more than 70,000 mu of dense pine forests which were recently found to be infested, in varying degrees, with pine moths. More than 30,000 mu are seriously infested. As I understand it, a similar situation has occurred in several other mountain counties near this city. Pine moths multiply rapidly, and they do a great amount of harm. Thirty young moths that have lived through the winter can strip the needles bare from a 10-year-old pine. Unless brought under control in time, a pine forest that has been cultivated for many years will be in danger of destruction. Right now is the opportune time for human labor to catch pine moths; therefore, I propose: 1) that any commune or brigade that has pine forests should organize manpower at once to size up the moth situation and formulate actions to be taken to prevent and control them; 2) that in communes and brigades where the moth situation is farily serious, extensive stimulation of the masses be carried out in order to begin to wage a war of annihilation by using people to catch the moths; 3) the payment of reasonable rewards, fixing of responsibilities, dividing the work, and assigning of individual trees to individuals or groups, rewards based on the number of moths caught, to provide criteria for thorough annihilation of the pine moths; 4) the preparation of chemicals and equipment ahead of time for detection and reporting in advance. During mid or late March, when the moths that have escaped detection come out of hibernation, use an insecticide at the proper time. Ones commonly used include armyworm powder, 666 powder [phenyl-hexachloride], and Stam F-34 [dichloropropionanilide]. In mountainous areas where there is insufficient water, ultra-low-volume sprayers may be used to get rid of the moths, killing them before they climb the trees. [Text] [Beijing BEIJING RIBAO in Chinese 9 Mar 80 p 2] 9432

CSO: 4007

BRIEFS

WATER CONSERVANCY--By 1 May, the (Beixinlinshui) water conservancy project in Jiulongjiang, Fujian, had basically been completed through the efforts of the peop'e in Longhai County and Xiamen Municipality and the commanders and fighters of a certain Fuzhou PLA unit. This is a key water conservancy project in the country. Effective 1 May, Xiamen will be supplied with water from this project. An inauguration was held on 1 May with the participation of Wu Hongxiang, secretary of the Fujian Provincial CCP Committee and vice provincial governor; Wang Zhi, deputy political commissar of the Fuzhou PLA units; and other responsible comrades of the departments, committees and offices of the provincial CCP Committee and the provincial people's government. Wu Hongxiang and Wang Zhi spoke. Representatives from Longxi Prefecture, Xiamen Municipality and the PLA unit also spoke. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 1 May 80 HK]

RECLAMATION MEETING--A Fujian land reclamation meeting, which was recently held in Fuding County, stipulated the task of reclaiming 100,000 mu this year and summed up experience in reclaiming shoreline. The province has been scoring very good results in reclaiming shoreline since 1975. A total area of 890,000 mu has been reclaimed, some 600,000 of which has been turned into cultivated land. While reclaiming the shoreline, the province has also paid attention to maintaining a standard level of fish breeding. The meeting demanded that communes and brigades that are near the seashore strive to reclaim the shore after they have fulfilled their agricultural production tasks. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 6 May 80 HK]

INDUSTRIAL CROP BASES--The peasants in the countryside of Fujian have grasped the development of 63 bases of economic crops including sugarcane, tea, tangerines, jute, rubber, sisal hemp, tobacco and mulberry trees. These include 13 sugarcane bases each capable of producing 10,000 tons of sugar a year and 5 tea bases each of which can produce 50,000 dan of tea a year. In the southern part of Fujian, two rubber and two sisal hemp bases have been set up. To do a good job in the construction of economic crop bases, the state and province have allocated 4.2 million yuan of investments. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 12 May 80 HK]

RURAL INSPECTIONS--Recently, the comrades from the Fujian Agricultural Bureau went to the countryside to conduct on-the-spot inspections to analyze the transplanting of early rice. This year the areas sown to fine seed strains are larger than last year, accounting for 60 percent of the early rice. They pointed out that after 7 to 8 days of transplanting early rice, it is necessary to complete the first interrow tillage and weeding and scientifically apply fertilizer. This year the temperature is comparatively higher. Therefore, after 6 to 7 days of transplanting, it is necessary to apply additional fertilizer. The areas sown to azolla this year are very large. At the same time, it is also necessary to properly open up drainage channels, prevent fertilizers from being washed away and increase the temperature of the soil. According to forecasts of the meteorological departments, there will be more rain this year. The various areas must therefore do a good job of flood prevention. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 27 Apr 80 HK]

FOREST SITUATION--Fuzhou, 2 May--Fujian Province consumed 13 million cubic meters of timber in recent years. This requires the felling of 2 million mu of forests each year. Because of its huge timber consumption, Fujian has not been able to expand its forest area through an artificial afforestation drive. In light of this, many cadres and masses in the province have urged that the mountains be closed to facilitate afforestation. They called for effective measures to prevent indiscriminate cutting and brush fires, and for vigorous afforestation efforts. [Beijing XINHUA Domestic Service in Chinese 0329 GMT 2 May 80]

SPRING FARMING--Fujian had basically accomplished its spring sowing task by the end of April. More than 5 million mu of seedlings have undergone mid-season plowing and application of fertilizers. Due to rational proportioning of land devoted to grain and economic crop cultivation, major economic crops such as sugarcane, peanuts, soybeans and tobacco have all had their planting quotas fulfilled or overfulfilled for the year. During spring farming this year, more than 11,000 cadres from various levels in the province, districts and counties were sent to the frontline of agricultural production to study and investigate and strengthen leadership in spring farming work. As a result, spring farming this year has proceeded at a fast pace and the quality of work has been good. Although there were several spells of wet weather and low temperature, timely measures were taken to insure the healthy growth of seedlings and prevent rotting. At the same time, training programs for agricultural technicians were conducted, producing more than 90,000 technicians. As a result of scientific farming, more than 70 percent of seedlings sown this year are of high quality. The amount of fertilizer used has increased and extensive irrigation projects resulted in additional or improved irrigation of 500,000 mu. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 3 May 80 HK]

JIAN'OU COUNTY AFFORESTATION--Fuzhou, 12 May--Jian'ou County, Fujian, has afforested 100,000 mu of land this year, increasing the county's woodland to 4.4 million mu. [Beijing XINHUA Domestic Service in Chinese 0157 GMT 12 May 80]

CSO: 4007

BRIEFS

WHEAT STRAIN--The Grain Crop Research Institute of the Gansu Provincial Academy of Agricultural Science has developed a new strain of spring wheat after 10 years of experiments. The new strain gives a yield 10 to 20 percent higher than ordinary strains. Its per-mu output is generally from 700 to 800 jin. In some cases the output is as high as 1,000 jin per mu. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 8 May 80]

DINGXI PREFECTURE CISTERNS--Lanzhou, 10 May--Since last year, Dingxi Prefecture, Gansu, has built more than 15,000 water cisterns, bringing the total to 99,000. Water stored in these cellars during the rainy season is enough for use by man and animal throughout the year. [Beijing XINHUA Domestic Service in Chinese 0118 GMT 10 May 80]

CSO: 4007

MEASURES TO PROTECT HEADWATER FORESTS PROPOSED

Guangzhou NANFANG RIBAO in Chinese 13 Mar 80 p 1

[Article: "Proposal That Each Leadership Level Adopt Measures to Protect Headwater Forests; Some Forestry Experts From Our Province Inspect Headwater Forest Situation in Conghua and Longmen"]

[Text] An inspection team from the Guangdong Provincial Forestry Society recently inspected headwater forest preservation and development in the Conghua and Longmen prefectures. Results of the inspection show that headwater forests in these prefectures have sustained a great amount of damage with serious consequences. Forestry workers believe that matters have reached such a state that the attention of people, particularly of each level of leadership, cannot help but be attracted to it, and that effective measures must be taken to solve this problem.

The forestry inspection team was headed by the 88-year-old famed forestry expert, Prof Shen Pengfei [3088 7720 7378], who is chairman of the Board of Directors of the Forestry Society. Members of the team included experts concerned from various fields, engineers and responsible comrades from units concerned. The inspection team penetrated into old forests in the mountain fastness of Conghua and Longmen, climbed high mountains, and traversed narrow gorges on an inspection that lasted 6 days. Along the way they saw quite a few mountains with barren tops, distant mountains with nothing remaining but remnants of forests, and natural headwater forests in some peripheral mountain areas that were being "encroached upon and destroyed." The forests that had been replanted before the Great Cultural Revolution and the "ancestral forests" inherited from the period prior to liberation have been cut bare for the most part, and timber in state-owned forests has also suffered quite seriously from illegal cutting and poaching. Widespread destruction of the forests has caused elevation of some riverbeds and a regression of navigable waters. Some hydropower stations and mountain catchments and reservoirs are unable to operate effectively, and some naturally irrigated fields have become fields that look to heaven for rainfall. The forestry workers told the correspondent that the situation in other parts of our province was even more serious than here. According to incomplete statistics from 31 counties in the province, an area of more than 1.3 million mu of forests was destroyed during last year alone for a loss of more than 1 million cubic meters of timber. The experts and engineers of the investigation team felt extremely sad about this. Professor Shen said that the destruction of the forests absolutely could not continue. He believed that a good job of planting trees to create forests in our province and the development of the crucial area of forestry lay in the leadership at every level having an understanding of the importance of forests and thus a high degree of respect for them. Professor Shen and the experts and engineers on the investigation team ardently hope that: 1. true strengthening of leadership will be made at every level of leadership organizations for diligent implementation of the "Forestry Law," to protect forest resources, particularly headwater forests, with rewards for those instrumental in protecting the forests and fines for those violators who destroy forests; 2. implementation of forestry policies with reform of the currently existing irrational system of management for forests; 3. serious attention to training and bringing up of forestry researchers to broadly launch forestry research work, and 4. launching of a large-scale campaign of tree planting to create forests with proper care being given plantings, with emphasis on quantity but even greater emphasis on quality.

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CSO: 4007

TRANSPLANTING OF EARLY RICE IN GUANGDONG DISCUSSED

Guangzhou NANFANG RIBAO in Chinese 21 Mar 80 p 1

[Article by Zhang Runqiu [1728 3387 3808]: "Keeping Ahead of the Season and Transplanting Seedlings at the Right Time Constitute the Key to Getting Bumper Harvests"]

[Text] Agricultural engineers and agricultural technicians form some prefectures, counties, communes, and directly concerned provincial units emphasized at a recent discussion group convened by the Provincial Agriculture Bureau that since the sowing season for this year's rice crop is short, the problem of keeping ahead of the season is particularly acute. How to assure transplanting of seedlings at the proper time is a crucial problem for a bumper harvest in the early crop.

The experts maintain that ever since the Third Plenary Session of the 11th Party Central Committee, the situation in rural villages in our province has been getting better and better, with the enthusiasm of cadres and masses running high. As a result of having absorbed the lessons of past experience, the sowing of seeds this spring has been done at the right time everywhere, and little rotting of seedlings has taken place. Chemical fertilizer, farm chemicals, nylon sheeting, and such materials used on farms are more plentiful this year than last; work to improve low-yield fields has been done more solidly; the area plowed in the winter to sun the soil is greater than last year; and seedling bed preparation and seedling quality have generally been improved. All this provides advantageous conditions for a bumper early crop this year. There are, however, some problems regarding early crop yields that should not be overlooked. Foremost among them were the intense cold wave and the continuously overcast and rainy weather, with scant sunshine during early February. Mei County and Shantou and Shaoguan prefectures were buffeted with gale force winds and torrential rains as well as hailstones, causing definite hardships for work preparatory to spring plowing. The number of batches of early rice sown were few and the sowing season concentrated. Throughout the province, early rice varieties are planted in most places during late February and early March. Thus, the season for transplanting was also relatively compressed. The seedlings had to be transplanted within a relatively short period of time so as not to fall behind and miss the right planting season and so as to be able to promote early and rapid growth, making the plants grow and develop under conditions of proper warmth and making the flowering and fruiting period occur in mid-June or early July, which is an advantageous period of sunshine and warmth. Thus, the fruiting rate can be increased, the per thousand weight of grains raised, and consistently high yields realized.

In order to assure that transplanting be completed before "Qingming" [early April] in central prefectures, and before the "grain rains" [mid-April] in northern prefectures, the experts proposed that prior to transplanting, each area should ready its manpower and prepare its draft animals and machinery, and then prepare a fair-size strip of fields and plant it; every trade and profession should bend every effort to support spring plowing and exchange labor. Financial and trade units concerned should assure electric power and petroleum for spring plowing. Efforts should be made to allocate the chemical fertilizer supply for the first half of the year before "May Day." In order to assure that rice is transplanted at the proper time, the fields should be made ready and inundated in a race against the clock so that there will be no "seedlings awaiting the fields."

At the discussion meeting, the agricultural experts also analyzed the special nature of the care given to early crop fields, pointing out that last year's early crop of "Guichao" covered an area of 4 million mu, and that a pronounced expansion of the area planted to "Guichao" early rice would take place this year. This would be an important condition for realizing greatly increased yields this year. However, in order to assure normal growth of "Guichao" seedlings, each area needs to master the laws governing the growth of "Guichao" and adopt suitable cultivation techniques, particularly giving attention to the prevention and control of diseases and insect infestations. Total prevention and control methods must be taken to do a good job in the prevention and control of the "two diseases" (bacterial blight and blast), and the "three insects" (leaf rollers, leaf hoppers, and thrips). In Shantou Prefecture, spraying during the seedling stage and at the height of tillering with streptomycine, copper sulfate, or leaf-blight clear liquid [5509 2661 3210] was found quite effective. Other places may want to try it.

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CSO: 4007

GOOD MANAGEMENT OVERCOMES 'GUICHAO' RICE VULNERABILITY

Chaoyang County

Guangzhou NANFANG RIBAO in Chinese 24 Apr 80 p 1

[Article: "Over 300,000 Mu of 'Guichao' Variety of Early Rice Grow Well in Chaoyang; Good Management Throughout County Creates Hope for High Yields"]

[Text] Chaoyang County managed well over 300,000 mu of early crop of the "guichao" superior variety of early rice. At present, this county is covered with prosperous rice seedlings and the trend of growth makes everyone happy.

Chaoyang County's per mu yield of paddy rice last year surpassed the yield of "doubling the goals set in the National Program for Agricultural Development." Would this year's early crops produce even more? After last year's surplus yield, discussion meetings were held by one county committee and the party committee. The meetings were attended by agricultural science personnel and by representatives from high yielding units of different types of regions. They conducted conscientious summaries and analysis of the experience of the high yield of the last crops and discussed the question of what should be done for the next crop. Everyone was able to more self conscientiously grasp the whole set of key management techniques and cultivation measures which enabled "guichao" to produce a high yield. This spring, they printed the precious experience of these high yielding units and technical measures brought out by the agricultural science personnel as written documents, made reports at various places, broadcast the documents via radio, held training classes and field meetings to spread the word. Since the beginning of spring planting, the entire county has held over 7,000 training sessions for agricultural science personnel and commune and brigade cadres. They even dispatched country agricultural science and technical personnel to each commune to implement these superior cultivation methods together with the cadres, masses and agricultural science personnel of the communes and brigades so that all places of the county continued to win battles in spring planting and cultivation.

"Guichao" is a high yielding variety of the large panicle type and has a relatively strong sensitivity to temperature but its resistance to adversities is weak. It easily becomes diseased. If the situation is not treated properly, the situation will become very dangerous. To fully develop the high yielding ability of this variety, and to further its benefits and avoid damage, Chaoyang County's authorities took the work of disease and insect prevention as the key project. They fully developed the function of the four-echelon agricultural science network at the start from sowing and conscientiously organized special teams and used cultivation and prevention as the key methods. By scientific management of water and fertilizers, they created conditions favorable to the growth of the rice seedlings but unfavorable to the occurrence of disease and insect pests, and they joined the control of disease and insects with measures to increase production closely together. At the same time, they took various active prevention measures. They disinfected the seeds strictly before sowing to stop the seeds from carrying disease. The seedplots were treated with chlordimeform throughout to prevent any insect source from infesting the seedplots. They paid special attention to strengthening the leadership in disease and insect pest observation and reporting. The county communes and brigades all set up and strengthened their observation and reporting network and implemented the post responsibility system among observational and reporting personnel to assure timely discovery of diseases and insect pests and eradication. This year, seedling blast disease of the early rice seedlings occurred in the fields of 12 communes throughout the county. The disease had just occurred and they immediately organized the cadres and masses and agricultural science personnel to implement timely prevention measures. The disease was eradicated during its infant stage. Recently there have been many cloudy days and the weather has been damp, and in some communes of the county, "rice thrips" have occurred. The leadership of each level exterminated them by spraying chemicals so that the rice seedlings could grow normally. In addition, they also followed the corresponding weather pattern of "less rain in late spring and more concentrated rainfall in summer" in preventive cultivation to be able to attack (disease) and defend (the crops) and in prevention using chemicals to be well prepared by storing and buying enough chemicals, thus truly taking prevention as the key, combining prevention and control beforehand and at the beginning of occurrence.

In the course of planting "guichao" well, the leading agencies of Chaoyang County insisted on pursuing the truth and starting from pragmatism. To become the spokesman of scientific planting and to take the initiative in leading production, the leading cadres of all levels in Chaoyang County all conscientiously planted the "key field" well. They acted as commanders as well as technicians. They first experimented in "planting the key fields" to search for ways to produce high yields of paddy rice and guided the overall situation. The masses say there are high hopes of realizing high yields because the efforts of the county committee members and the cadres of all levels this year to lead production are solid and they have what it takes and they are doing the work steadfastly.

Chaoyang County Experience Popularized

Guangzhou NANFANG RIBAO in Chinese 24 Apr 80 p 1

[Article by Staff Commentator: "Do This Task Well Like Chaoyang County Has Done"]

[Text] Chaoyang County which produced a per mu yield of grain more than "doubling the goals set in the National Program for Agricultural Development" last year is carefully managing well over 300,000 mu of "guichao" early rice. We hope that comrades of the farm villages analyze how Chaoyang County took the task of managing well the planting of "guichao" as a big task so that beneficial experience can be gained.

People can see in a sideview from Chaoyang County's careful management of "guichao" that they have realized the shift in emphasis in a better way. In Chaoyang County, the leading cadres did not pledge empty promises of producing bumper harvests, they did not rely on drawing circles to pass time. They considered managing "guichao" well as a "key." They led in planting the "key field" well and they became the spokesman for commanding production. In Chaoyang County, the experience of planting "guichao" at that locality to produce high yields is being popularized throughout the entire county. The scientific knowledge of managing "guichao" well is being learned so that the superior method of planting the superior variety of "guichao" becomes something that everyone knows and each and every item of work is being implemented. They have truly carried out the task of taking production as the center. They have truly started out from pragmatism, strengthened and improved the party's leadership in agricultural production.

Some comrades worry whether it is a "risk" to increase the planting area of "guichao" from last year's approximately 4 million mu to this year's approximately 10 million mu as the early crop. The facts in Chaoyang County have proven once again that this is not a "risk" but a solid march of the people and masses towards scientific planting. In Chaoyang County, the planting area of "guichao" constitutes about 60 percent of the total area of early rice. This is a large increase from the same period last year. The cadres and masses of the entire county are confidently propagating the successful experience and are fully developing the high yielding properties of "guichao." They also know well that "guichao" has the weakness of being poorly resistent to adversity, and they have made all preparations in tackling the prevention and control of disease and insect pests as the key problem to be solved. It is obvious that as long as each locality emulates Chaoyang and plants "guichao" over a large area it is not something to be worried about but it is the best thing to do. Of course, if at some localities, the leadership does not care about managing "guichao" well after "guichao" has been planted over a large area, and allows it to go its own way, or blindly commands without really knowing, and makes out as if knowing, then the goal of increasing yield is difficult to achieve, and things may even be spoiled and a loss in yield may even be brought about. This is deerliction of duty and cannot be tolerated. It is something that every comrade should avoid.

"Guichao" must be managed early. From now on, it must be grasped tightly. As long as every locality emulates Chaoyang County, follows the spirit of the Fifth Plenum of the Central Committee, strengthens and improves the party's leadership, takes managing "guichao" well as a big task, grasps it until the end, then bumper harvests of over 10 million mu of "guichao" of the entire province can be expected within numbered days.

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ACHIEVEMENTS OF PADDY RICE BREEDER OUTLINED

Hong Kong ZHONGGUO XINWEN in Chinese 24 Mar 80 p 12

[Article: "Guangdong Provincial Government Assigns Car to Paddy Rice Breeder Huang Yaoxiang"]

[Text] (Chinese News Agency Guangzhou, March 22) To reward paddy rice breeder and national labor model, Huang Yaoxiang [7806 5069 4382] for his important contribution in paddy rice breeding, the Guangdong Provincial People's Government assigned a "Shanghai brand" automobile to him for his use. The cost of purchasing this car was entirely borne by the provincial bureau of financial affairs.

The 64-year old Huang Yaoxiang is a representative to the Fifth National People's Congress, member of the Standing Committee of the People's Congress from Guangdong Province, presently serving as deputy director of the Agricultural Institute of Guangdong. He is one of the major innovators of paddy rice stunting and breeding in China. As early as 1959, he successfully cultivated by artificial hybridization China's first superior dwarf stem rice variety "guangchangai." This superior variety solved the serious problem of lodging and reduction in yield of paddy rice in the coastal regions in southeast China due to long periods of attack by typhoons and hard rains. It increased the per mu yield of paddy rice by 100 to 200 jin from the past, and it received widespread attention from international agricultural science circles. After the 1960s, Huang Yaoxiang and the breeding group of scientific and technical personnel under his leadership followed the guidance of the theory of stunting and successfully cultivated in succession over 50 superior varieties of early and late stunted rice such as "Zhenzhuai," "guangerai" and "guangluai No 4." These superior varieties were not only propagated rapidly in the paddy rice producing regions of three provinces and cities in southern China but were also introduced into Southeast Asia and some African nations for planting. High yields were also realized. Of these, "zhenzhuai" produced a highest per mu yield of over 1600 jin in Mauritius. In recent years, Huang Yaoxiang also conducted the work in the successful breeding of the new superior paddy rice variety "guichao." Last year, "guichao" was planted in over 13 million mu throughout the nation, and its average per mu yield was higher than that of other high yielding superior varieties by about 1[illegible] jin. This achievement was rewarded by First Order of the Technical Improvement Award given by the Ministry of Agriculture.

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INDUSTRIAL FRONT SUPPORTS AGRICULTURE

Guangzhou NANFANG RIBAO in Chinese 19 Mar 80 p 1

[Text] In order to support spring plowing and production and to strive for a bumper harvest in the early crop, the broad masses of employees on the industrial front in our province are actively producing manufactures in support of agriculture.

At the beginning of this year, industrial units in our province concentrated their attention on the production of some major products for the support of agriculture on the basis of agricultural demand. Despite a retrenchment in the number of plants in production since last year, the chemical fertilizer industry strove to overcome difficulties and strengthen management. During January and February, provincewide production of fertilizer reached more than 81,100 tons, an increase of 26.6 percent over the same period last year. Of this, nitrogenous fertilizer accounted for more than 64,000 tons, an increase of 28.6 percent. Farm machinery industrial enterprises went into rural villages to solicit the views of users. They organized production of small hydraulic turbines that fit in with the market in rural villages, as well as small hydraulic electric power generators and spare parts for the maintenance and repair of farm machinery. They also sent personnel out from place to place to maintain and repair farm machinery, providing a complete set of services for agriculture. Enterprises responsible for production of agricultural chemicals expanded the number of their employees and strove to improve quality and to increase the varieties of agricultural chemicals of high effectiveness and low toxicity. Units producing nylon sheeting also competed against the clock to improve production, providing a large amount of nylon sheeting for use in the propagation of seeds sown in the spring.

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AGRISCIENCE RESEARCH, POPULARIZATION PUSHED IN GUANGDONG

Guangzhou NANFANG RIBAO in Chinese 19 Mar 80 p 1

[Article: "Focus on Agriscience and Popularization Work. Provincial Scientific Coordination Unit Sets Key Items for Agriscience Research and Popularization and Makes Specific Arrangements"]

[Text] By way of hastening the pace of development of agriculture in our province and striving for an across-the-board bumper harvest this year in agriculture, forestry, livestock raising, sideline industries, and fisheries, the Provincial Agroscience Research Coordination Unit recently set a preliminary group of key items for agricultural research and popularization this year and made specific arrangements for organization, division of labor, and expenditures.

This key list of items for agricultural research and for popularization of results was jointly drafted following study by various agricultural units and departments in the province. Later it was discussed and passed by the Provincial Agricultural Science Research Coordination Unit. The key items for research are as follows: Investigation of agricultural natural resources throughout the province, with research on each agricultural district; new varieties of paddy rice (including greatly superior combinations); breeding; prominent concentration on improved late crop varieties, with resistance to disease and the study of cultivation techniques for high rice yields. For sugarcane and peanuts, research into the breeding of new varieties, and cultivation techniques for high yields (including high yields from summercane); research into the breeding of superior varieties of livestock and poultry, and feeding techniques for them, with particular emphasis on the breeding of superior varieties of pigs, cows, chickens, ducks, and geese, as well as research into pig-feeding criteria and forage grasses. Additionally, research into the prevention and control of diseases and insect pests in agricultural crops, the balance of the ecological system, breeding of major varieties of forest trees, and their cultivation techniques. Principal items in the field of accomplishments in agriscience for popularization are: popularization of new superior varieties of crops, including the paddy rice varieties "Guichao No 2," "Guanger 104," "Hanluzao," "Hanbaotai," and strongly superior rice hybrid combinations; peanut varieties "Yueyou 187" and "Yuexuan 58"; sugarcane variety "Yuetang 71/210"; demonstration of high-yield cultivation techniques for paddy rice grown over large areas; new methods of raising sugarcane seedlings, and transplantation technology; and a large area demonstration of the new American variety "Xiluping" [4798 4845 5493]. For each of the above key items for research and popularization the Provincial Agricultural Commission, the Scientific Commission, the Academy of Sciences, and other units concerned have already made specific arrangements as well as allocations of manpower, material resources and expenditures, and requisite facilities. Once the provincial agricultural science technical advisory unit convenes a meeting to solicit the views of the experts, full implementation will begin.

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CHAOYANG COUNTY DETAILS SPRING FARMING EFFORTS

Guangzhou NANFANG RIBAO in Chinese 19 Mar 80 p 1

[Article: "Chaoyang County Makes New Breakthrough in Agriculture This Year"]

> [Text] Editor's Note: Keeping pace with the farming season and doing a good job in spring plowing and production are the most important matters at the moment in rural villages. This means not only implementing various economic policies and fully mustering the enthusiasm of the masses, but also setting up a system of personal responsibility for cadres and mustering the full enthusiasm of the cadres. Mei County and other places have put into effect a system whereby cadres pledge brigades, with rewards being given for excess production, and the greater the excess the greater the rewards. Every place may do likewise.
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> This year, many places throughout the province have expanded the planting of the superior "Guichao" variety. This is a factor favoring increased yields. But it must begin with the propagation of seedlings and with helping the peasants master a series of cultivation techniques in the nurture of "Guichao" rice before striking increases in yields may be realized. If this is not done, there may be no increased yields, and if it is done wrong, reduced yields may even result. That Chaoyang County has given attention to this problem is very correct.

The cadres and masses of Chaoyang County, which last year reaped bumper harvests in agriculture in all its crops, has set about spring plowing filled with confidence. Sowing has been substantially completed throughout the county, the seedlings are growing well, and at the "spring equinox" the seedlings may begin to be transplanted.

Last year, grain yields averaged 1,698 jin per mu, an increase of 402 jin over 1976. Total production increased to 210 million jin. So that agricultural production this year will have another breakthrough, the County CCP Commission aroused the cadres and masses to discuss and agree to make their efforts in three ways:

1. Farm the fields scientifically and strive to increase per unit yields. In advance of the lunar new year, the County CCP Committee convened a discussion meeting by the county agricultural and forestry society to summarize experiences, to discover the laws of high yields, and to propose attention to various specific measures in connection with early crop production. These were announced to every brigade throughout the county. County CCP Committee leaders also took the lead in attending lectures given by technicians. As regards scientific farming of fields, they emphasized maximizing benefits while avoiding harm in scientifically arranging for the sowing period of the early crop. Since "Guichao" has spread to an area totaling almost 300,000 mu, they organized the masses for study of the characteristics and relevant information about its cultivation and care.

2. Give attention to sinkholes in mountain fields, to arid slopes, and to saline fields in seacoast areas in order to promote balanced increases in production. Since last winter, more than 40,000 mu of fields with sinkholes in mountain areas have been improved in a preliminary way. With the construction of facilities for electric irrigation stations, the newly irrigated area for arid hillsides throughout the county is more than 6,000 mu. As regards saline fields in coastal areas, the County CCP Committee has decided to irrigate them to flush away the salt, in view of the favorable increase in water impounded in catchments. The County CCP Committee has also decided to allocate from 10 to 20 jin of phosphoric fertilizer per mu in order to change the low fertility of more than 20,000 mu of saline fields of rather high acidity and of mountain fields with sinkholes.

3. Open up all avenues of production and make advances in scope and depth of production. The County CCP Committee asked each commune and brigade to devote great efforts to the planting industry, the breeding industry, and the processing industries and to strive for greater increases in cash income.

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AGRICULTURAL BANK CHANGES FUND-MANAGEMENT METHODS

Guangzhou NANFANG RIBAO in Chinese 24 Mar 80 p 1

[Article from Provincial Bank: "Greatly Increased Funds for Support of Agriculture Provincewide. Funds Control System Changed Owing to Good Conditions]

[Text] With a unified plan, a unified policy and a unified system, the Chinese Bank of Agriculture began trial operation this year of a nationwide system whereby commune and brigade credit funds in rural villages would implement a management system of "linked savings and loans, with shortfalls guaranteed." Following institution of this method, a great rise in enthusiasm for the raising of funds occurred at every echelon of the Bank of Agriculture and in credit cooperatives. A 40.4-percent growth occurred provincewide in funds available to support agriculture this year as compared with last; the increase amounted to more than 240 million yuan. As of the end of February, the Bank of Agriculture and credit cooperatives throughout the province had accumulated and loaned out funds of various kinds in support of agriculture totaling 249.54 million yuan, an increase over the same period last year of 75.8 million yuan, or a 43.6-percent growth rate, vigorously supporting spring plowing and production everywhere.

Commune and brigade credit funds in rural villages used to have a guarantee system, but its method of operation was not all it should have been. Formerly, increases in rural savings for a particular year could not be put to use at once in the same year, and rural village savings in a given region could not be used throughout that region. Under the new management system, these two provisions have been changed. All savings taken in may be put to use the same year, and the greater the savings in rural villages, the greater the amount of funds available for support of agriculture. This has greatly aroused enthusiasm for raising, managing, and using funds regionally. Last year a striking increase in the income of rural communes, brigades, and peasants occurred in our province as a result of bumper harvests in agriculture plus increases in the purchase prices of agricultural sideline products. According to statistics, in the month of December alone there was an increase of more than 250 million yuan in rural savings in banks throughout the province. At the end of the year, rural savings throughout the province showed a record-breaking increase of 35.6 percent over the previous year. As of the end of last year, the amount of credit cooperative funds transferred into bank savings increased by more than 300 million yuan over the previous year, breaking another record.

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BRIEFS

FIR SEED FARM--Our province's first China fir seed farm, the Qujiang Shanzibei seed farm, which was established as a cooperative venture by the Provincial Forestry Institute and the Qujiang Forest Farm, began to produce seeds last year, supplying superior quality seeds for use in forestry production. This China fir seed farm, which was set up in 1973, comprises an area of 711 mu and has grafted 215 asexual lines (superior individual plants). In 1976 it began a small amount of fruiting, and last year its total production of seeds was more than 90 jin. The Provincial Forestry Institute is currently in the process of turning the Shanzibei China fir seed farm into a propagation and research base for superior varieties of China firs. It has launched an evaluation of the current generation and the filial generation of individual superior plants, enlarged its area, and set up an improved China fir seed farm where it will conduct many kinds of experiments in sexual hybridization of China firs. [Text] [Guangzhou NANFANG RIBAO in Chinese 14 Mar 80 p 1] 9432

SHAOGUAN PREFECTURE RAIN DAMAGE--Shaoguan Prefecture recently suffered rainstorm and hailstone attacks such as have been rarely seen since liberation. These rainstorms and hailstones went on from 29 February until the early part of March. They arrived early, were of unusual force, were widespread and continued for a long period of time. Rainfall in each county averaged 113 millimeters. On 5 March alone, rainfall in Shixing County amounted to 147 millimeters. In Beijing the river rose suddenly, and in Yingde County it rose above the warning level. Shaoguan City and Qingyuan County had water at the warning level. During May and June many places had typhoons of the 7 and 10 grade. From the 4th to the 6th, some part of each county was pelted with hailstones and torrential rains. Except for Lian County, Liannan and Lechang, the other 10 counties throughout the prefecture sustained different degrees of damage. According to incomplete statistics, more than 13,000 houses were damaged, more than 1,500 cubic meters of lumber was washed away, more than 70,000 mu of wheat and rape was destroyed, and some mountain ponds, ditches in fields, river dikes and bridges sustained damage. More than 10 people were injured. Following the disaster, the administrative authorities of Shaoguan Prefecture convened a conference of officers in charge in units concerned to study and make arrangements for the livelihood of the people and production in the disaster areas. Material and financial support and assistance was given badly hit areas. The prefectural and county governments, banks, foodstuffs, and means of production sectors all worked in close coordination to make timely allocations and rush materials for the livelihood of the masses and for spring plowing and production in support of communes and brigades who had suffered calamity. [Text] [Guangzhou NANFANG RIBAO in Chinese 13 Mar 80 p 2] 9432

SILKWORM FODDER--Guangzhou, 10 May--Scientists in Guangdong Province, south China, are using man-made fodder to feed castor silkworms, whose eggs are used as an intermediate host in the laboratory breeding of a natural enemy of plant insect pests. A compound of wheat bran, dry cassava leaves, soya bean powder and tapioca, the man-made fodder is cheap and has the same effect in the survival rate of castor silkworms and in moths' egg-producing as fresh castor and cassava leaves. It solved the problem created when fresh castor and cassava leaves are in short supply. Trichogramma, a kind of insect like a small bee, is the enemy of more than insect pests, including the corn borer, cotton bollworm, rice grassleaf roller, cutworm and pine caterpillar, and it kills their eggs. Scientists maintain the supply of trichogramma by producing a generation of them once a month. [Text] [Beijing XINHUA in English 0705 GMT 10 May 80 OW]

HAINAN WILD RICE VARIETIES--Baoting County at the southern foot of Wuzhishan on Hainan Island has gathered an initial four wild rice varieties--Xiaoli, Youli, Yaoyong and Putong--as part of its recently undertaken general search for wild rice resources. Samples have already been sent to the Hainan Institute for planting. Baoting County's climate is mild and with copious rainfall, abounding in wild plants and animals. This general search has turned up a wide distribution of wild rices and much seed stock. The discovery of wild rice provides important materials for reference in the study of the origins of rice and its modern day propagation. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 9 Feb 80 p 7] 9432

GUANGZHOU RICE RESEARCH CENTER--The rice research center funded by the Ministry of Agriculture has formally begun work at Shipai in the suburbs of Guangzhou. This structure has a total area of more than 9,000 square meters including a multi-storied laboratory, greenhouse, mesh chamber, darkroom and dormitories. The entire project is scheduled for completion by the end of this year. Once this rice research center has been completely built, it is planned to set up five research offices including breeding, genetics, ecology, variety resources and cultivation, plus a science and technology information unit. This research center located in Guangdong will strengthen academic exchanges with the countries of Southeast Asia and with rice research institutes internationally. [Text] [Hong Kong ZHONGGUO XINWEN in Chinese 10 Mar 80 p 8] 9432

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CLIMATE IN NORTHERN HEILONGJIANG DISCUSSED

Beijing DILI ZHISHI [GEOGRAPHICAL KNOWLEDGE] in Chinese No 12, Dec 79 pp 3-4

[Article by Hu Rongming [5170 2837 2494]: "Our Country's Cold Polar Region"]

[Text] The territory of our motherland is vast, its topography is varied, its climate differs from place to place, its natural landscape is gorgeous, and its natural resources are superior and abundant. Throughout the year, the spectacular islands of the South China Sea show a tropical scene of luxuriant growth in a verdant, mist-shrouded setting. Around the Ilkhuri Mountains, between the Heilong and Erhkuna rivers, there is a mountainous region with an area of 170,000 square kilometers which for about half of the year is characterized by ice, snow, and severe cold, forming a scene rather like the Polar region. This is located in our country's "cold polar" region in the northernmost part of the Greater Khingan Range.

The Greater Khingan is our country's northernmost mountain range and is an important formation of our Cathaysian system. Its elevation is between 1,000 and 1,400 meters above sea level, with the highest Ilkhuri peak above 1,700 meters. Most of the range is formed of igneous rock. Due to prolonged erosion by waterflow, its features are perfectly round. Its eastern slopes are steep, while the western are more gradual, a transition to the Hulunbuir Plateau. The whole range runs from northeast to southwest, intersects at almost right angle the path of the incoming southeast monsoon from the Pacific Ocean, and weakens the monsoon as it penetrates inland. This forms a humid climate in the eastern part of the range, creating advantageous conditions for agricultural production. The growth season for crops coincides with the height of the southeast monsoon, which causes much rain in the area and lessens its aridity. During rainy seasons, the forests are like a natural reservoir as they conserve large amounts of water, prevent soil erosion, and slow down river flooding. In the spring and fall seasons, the mountains and forests form a natural barrier that resists and weakens the cold air moving in from Siberia, Mongolia, and elsewhere, forcing it to decrease in speed and intensity, thus lessening the harm caused by low temperatures and early frost.

In this "cold polar" region live the Han, Man, Hui, Monggol, Daur, Oroqen, Ewenki and other nationalities totaling 1 million people. As one of our country's important resources, the region provides the state with several million cubic meters of timber annually.

Severely Cold and Long Winter

This is the region that has the lowest temperatures in our country. Aihui, which is the warmest place, has an average annual temperature of 0.4°C. Most of the region is between -2.0°C and -4.0°C. Genhe, the coldest place, has had an average of -7.0°C. Owing to the control of variable polar high pressure originating from Siberia, Mongolia, and elsewhere, the winter weather is clear, severely cold, and dry. The average midwinter temperature in January is between -25°C and -30°C. At an elevation of 979.9 meters above sea level, Genhe has experienced a monthly average of -37.2°C. Since in the range of frigid temperature zone the warmest month is above 10°C and the coldest month below -3°C, the "cold polar" region (excluding Aihui and Huma) belongs to the climatic region of this zone.

If an average temperature of 22°C or above is designated as summer, then there is basically no summer here during the year. Each year the summer averages barely 6 days. In 19 years of recorded data for Mohe in the north, short and temporary summer seasons appeared for only 5 years. In 21 years of recorded data for Genhe, which is at a relatively higher elevation above sea level, summer with average temperatures of 22°C or above appeared between 26 June 1970 and 30 June 1970.

The lowest extreme temperatures are between -40°C and -50°C. On 13 February 1969, Mohe had a temperature reading of -52.3°C, which is the lowest ever recorded in our country.

If the number of short days of 0°C is designated as the winter season, then the winter of the entire "cold polar" region averages as many as 217.3 days. In 1960, Tulihe had an unusually long winter of 363 days. If the number of short days with -10°C is designated as severe winter, then the severe winter period of the entire region is as long as 190.7 days.

The severely cold and long winter season is the cause of considerable permanent and frozen soil strata. In peripheral areas of cities and towns where the population is more dense, the greatest depth of frozen soil each year is generally around 300 centimeters. The greatest depth of frozen soil in Tulihe reaches 400 centimeters or more. The frost-free season is very short. Frost ordinarily appears in August, with the latest frost the following June. Frost can appear even in the warmest month of July. The average length of the frost-free season in the entire region is 93.8 days.

When the capital Beijing is blooming with flowers in autumn, the "cold polar" region is already in ice-covered winter. The snowfall season in the region is particularly long. Snow usually comes between September and the following May. In Mohe, Tulihe, and Tahe, snow showers and sleet have occurred in June. The average snowfall period (including light snowfall) is 77.5 days. Tulihe has had the highest number of days of snowfall days, 118. The annual average total snowfall amounts to 45-55 millimeters.

The severely cold, snowy winter brings many advantages for timber, subsidiary, and fishery production in the "cold polar" region. Winter is the golden season for logging and transportation. The severe cold of winter freezes the water content in trees and causes the wood to become firm and brittle, which therefore helps to increase the rate of logging. In December alone, all forestry bureaus have been able to complete 20 to 30 percent of the annual timber production quota. In the winter, hunting teams track across the snow and capture all kinds of animals, providing the state with large quantities of rich meat, expensive fur, and skins. Owing to the freezing of rivers for as long as half of each year, the numerous fisherfolk have developed the skill of fishing below frozen ice. By merely cutting a hole in the ice it is possible to use a net for fishing. Each netful can yield from a few to over 10 metric tons of fish.

Drastic Temperature Variation, Rain, and Heat in the Same Season

Although the length of winter in the "cold polar" region is the longest in the country, people may think that ice and snow occur throughout the year and that the severe cold is hard to bear. This is in fact not the case. Because of the effect of the continental climate, temperature variation is great. This is shown as follows: (1) Wide temperature variations throughout the year. Even though various places within a year may have had temperatures lower than -40°C, there can similarly be temperatures of 30°C or above. The difference in temperature extremes is generally more 80°C. Mohe has an even greater difference of 89°C. (2) Wide temperature variation within the day. The average temperature variation is generally as high as 15°C, and around 20°C during June. In the old society, Oroqen and other minority nationalities mainly used animal skins for clothing. The fur side of a torn fur-lined jacket was worn inside out during the winter and reversed during the summer. It was worn during the day and used as a blanket at night. This reveals not only the poor and backward life in the Oroqen minority nationalities region, but also the sudden changes in cold and warm weather--the characteristic whereby a day is like the four seasons. (3) Wide variation in monthly temperatures. Particularly in the transitional period from autumn to winter, changing months are like changing seasons. For example, the average temperature of Tahe in October 1972 was -2.7°C but in November it was -18.0°C--a difference of 15.3°C.

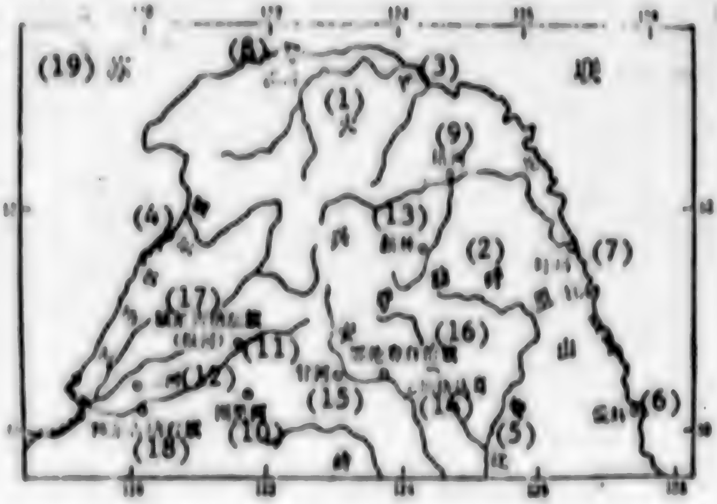
As a result of the increasing high-pressure force in the Pacific Ocean during the summer, humid maritime air masses and variable Siberian air masses collide in the northeast region and create cyclones. Precipitation in the "cold polar" region is therefore relatively plentiful. Moreover, owing to the topography of the Great Khingan and Ilkuri mountains, there is an uneven geographic distribution of precipitation, which is higher in the eastern than in the western parts. Jaqdaqi, Ganhe, Mohe, Taha, and Xinlin have an annual precipitation of 450 to 505 millimeters, while Genhe, Tulihe, and Sanhe have only 350 to 445 millimeters. In the extreme east, Huma and Aihui have an annual precipitation of from 470 to 530 millimeters. Another characteristic is the seasonal variation. The total average precipitation for the 6 winter months (from October to the following March) constitutes 10 percent of the annual precipitation, whereas for June to August it constitutes 65.7 percent.

The annual average number of sunshine hours in this region is 2,500 to 2,600. Especially before and after the winter and summer solstices, it is possible to have a spectacular view of half the sun on the horizon, which it goes around in a spiral orbit the whole day. On the day of the winter solstice the average length of sunshine here is only around 7 hours. By the summer solstice, however, daytime is unusually long. The sun rises in the east at 2 or 3 o'clock in the morning and sets in the northwest at 8 or 9 o'clock at night. The abundant sunshine in the summer creates advantageous conditions for adequate photosynthesis of crops.

The superior climate, with rain and heat in the same season as well as plenty of sunshine, enables grass and trees to grow luxuriantly in the "cold polar" region. In the course of time, great amounts of grass, withered branches, and fallen leaves turned organic, causing the soil to become rich in humus and shiny black in color. Just as people describe: "One footstep can squeeze out oil." The way crops grow in the fertile soil here makes people happy and can provide several billion jin of grains and legumes each year for the state. The yield per mu of other crops such as potatoes is generally around 3,000 jin and can be as high as 5,000. Some types of melons, fruits, and vegetables introduced from south of the Yangtze River grow here permanently. Even more cause to rejoice is the cultivation of paddy rice in Mohe in the extreme north, making ours the country with the northernmost limit for this crop in the world.

Gales and Thunderstorms, Microtherms, and Harmful Cold

The "cold polar" region is our country's "green treasurehouse," the "garden within a garden" or "the arboretum in the north." In the dense primeval forests are the straight Xingan larch; the very tall camphor; the hardy, old, graceful white birch; and the fluttering red willow which grows on both banks of rivers and streams. Here the mountains are high, the forests are dense, and the pointed hills are emerald green. In the forests there are all kinds of wild fruits. Wild food such as nuts, mushrooms, wood fungus, and day lilies are extremely abundant. There are great numbers of wild animals like big black bears, wild boars, wolves, roe deer, and squirrels. There are also elk, snow rabbits, lynx, deer, and musk deer, which are rare and precious. Moreover, there are innumerable types of birds, including pheasants, wild ducks, black hens, mandarin ducks, and flying dragons. The relatively low water temperature throughout the year greatly enriches the fat and protein content of fish such as the chum salmon, sturgeon, and huso sturgeon.



Sketch Map of Our Country's "Cold Polar" Region

Key:

1. Greater Khingan Mountains
2. Ilkhuri Mountains
3. Heilong River
4. Erhkuna River
5. Nunchiang River
6. Aihui
7. Huma
8. Mohe
9. Tahe
10. Tulihe
11. Genhe
12. Sanhe
13. Xinlin
14. Jiagedaqi
15. Kanhe
16. Oroqen autonomous banner
17. Ergun left banner
18. Ergun right banner
19. Soviet Union

The abundant natural resources here are certainly inseparable from the fine climatic conditions of the "cold polar" region. However, disadvantageous conditions also bring calamities to agricultural production and the forests. Gales and thunderstorms in the spring can sharply decrease the water content in the soil and cause natural forest fires. In the region, the average number of gales per year above the force of 8 (wind velocity at or over 17 meters per second) is 14. During the spring, when the low pressure from Lake Baikal moves southeast across our country's northeastern region, it is usually preceded by strong southwesterly airstreams and followed by violent invading northwesterly airstreams. This is why in April and May the average number of gales is eight or more.

In Tahe, there were 50 springtime forest fires of varying severity between 1968 and 1977, of which 27 were started by thunderbolts. Thus at the height of the thunderstorm season, whenever the gale force is higher than 5, it is necessary to take preventive measures to protect the forests and their resources.

Microtherms and harmful cold are natural calamities for agricultural production of grains and legumes. Owing to the lack of heat resources, there are large-scale microtherms and harmful cold on the average of every 3 to 4 years. For instance, in Huma, where heat resources are relatively good, the accumulated temperature of 10°C or above averages 2060°C. This is not very high, since "Hezuo No 6" wheat requires an accumulated temperature of 1550°C and "Hejiao 36" paddy rice requires 1900°C. During the past 20-odd years there have been eight microtherms in the "cold polar" region (1951, 1954, 1957, 1960, 1964, 1969, 1972, 1976). Each time, the microtherm caused accumulated temperatures everywhere to decrease by 180°C to 400°C, which corresponded to a decrease in the growth period (18°C equivalent to 1 day) of 10 to 22 days. Therefore, to curtail the harmful cold of microtherms and to achieve high and stable production, it is necessary to recommend advanced technological means to cultivate new varieties, in addition to utilizing heat resources efficiently and rationally. In recent years, the people of the "cold polar" region have complied with Chairman Hua's instructions that "we must cultivate early-maturing and high-yield varieties," cultivating a number of new varieties suitable to the cool summer in their region. [As can be seen from] this overall survey, the "cold polar" region is truly full of treasures, and the future of the motherland's frontier is bright.

9586
CSO: 4007

BRIEFS

COTTON PLANTING--Hubei Province has sown cotton on more than 8.86 million mu of cropland this year, thus overfulfilling its 1980 cotton planting plan. [Beijing XINHUA Domestic Service in Chinese 0337 GMT 21 May 80]

EGG PRODUCTION--Hubei produced a total of 270 million jin of eggs of various types for the state in 1979, a figure well above that of any other provinces in the country in providing eggs to the state. Of the total of 270 million jin, about one half came from the Jianghan plain which is also known as Jingzhou Prefecture, incorporating Mianyang, Qianjiang, Jiangling, Gongan, Songan, Songzi and other counties. In 1979, the prefecture raised 6 million of ducks and delivered more than 65 million jin of duck eggs to the state, or about one half of the total amount of eggs of all types turned in to the state. [Beijing XINHUA Domestic Service in Chinese 0227 GMT 19 May 80]

CSO: 4007

BRIEFS

NEW FABRICS INTRODUCED--Changsha, 6 May--Textile mills in Hunan Province, south China, have introduced a number of new fabrics made of ramie--a plant that yields fine fibres. Last year they made 8 new ramie materials but this year they have extended the range to 35 fabrics. The new materials include a chiffonette and a crepe made of pure ramie that are suitable for making high-grade shirts. A number of new ramie textile mills are being built in Hunan Province and some are expected to start production this year. Hunan grows 38 percent of China's ramie crop. [Text] [OW061413 Beijing XINHUA in English 1251 GMT 6 May 80 OW]

CSO: 4020

BRIEFS

JIANHU GREENHOUSE RICE SEEDLINGS--Nanjing, 10 May--Production brigades in Jianhu County, Jiangsu Province, now have over 1,400 greenhouses for cultivating rice seedlings without soil. Last year, seedlings from these greenhouses, totaling 60,000 square meters in area, were transplanted to 420,000 mu of paddy fields, or 60 percent of the county's total rice acreage. Thanks to this method, Jianhu's total rice output increased by 53.99 million jin each year over the past 2 years and the acreage of hybrid rice increased from 3,100 mu to 450,000 mu, each mu yielding over 900 jin in average. Survival rate of greenhouse rice seedlings is over 99 percent, 25 to 30 percent better than open field seedlings. In 1979, some 400,000 jin of seed, or 190,000 yuan and 80 percent of manpower were saved through transplanting greenhouse hybrid rice seedlings to 370,000 mu of paddyfields. [Beijing XINHUA Domestic Service in Chinese 0227 GMT 10 May 80]

GREEN MANURE SOWING--Nanjing, 10 May--Agricultural scientists and technicians in Jiangsu Province have successfully planted Chinese milk vetch [zi yun ying 4793 0061 3591], a major green manure for winter season, in wide areas north of the Huaihe River. The green manure was sown on 1.5 million mu in the autumn of 1979. [OW110323 Beijing XINHUA Domestic Service in Chinese 0125 GMT 10 May 80 OW]

LEATHER PRODUCTS FAIR--The Jiangsu provincial leather products fair opened on 6 May at the Nanjing municipal workers cultural palace. Over 4,500 pieces of leather products were on display. In 1979 Jiangsu produced 2.57 million sheets of leather, topping 1978 by 60 percent. Its leather production volume in 1979 was rated second highest in the country. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 6 May 80]

INDUSTRIAL PRODUCTS TRADE FAIR--The Jiangsu provincial trade fair of industrial products manufactured by commune- and brigade-run enterprises ended on 10 May after 1 month of exhibition. Representatives from all 29 provinces, municipalities and autonomous regions attended the trade fair. The total number of visitors reached 110,000. The trade fair did a total of 178 million yuan's business. The provincial Construction and Industry Bureau held a meeting on 11 May to exchange experience in sponsoring the trade fair. Wang Haisu, Standing Committee member of the provincial party committee and vice provincial governor, spoke at the meeting. [OW120043 Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 11 May 80 OW]

CSO: 4007

BRIEFS

RURAL AREAS--Nanchang, 2 May--Marked changes have taken place in Jiangxi's rural areas since the third plenary session of the party Central Committee. A best record on profit distribution was set in 1979. The average per capita grain ration was 575 jin, 72 jin more than the previous year. In 38 counties and municipalities, the average per capita grain ration exceeded 600 jin. Meanwhile, the collective grain reserves also went up. Last year the average per capita cash income received from the collective reached 89.30 yuan, 15.90 yuan more than in the previous year. Nine counties and municipalities registered an increase of over 30 yuan. [OW081148 Beijing XINHUA Domestic Service in Chinese 0118 GMT 2 May 80]

RURAL CREDIT--In the first 3 months of 1980, the credit cooperatives in the countryside throughout Jiangxi Province provided 2.88 million yuan to the commune members for developing domestic sideline occupations. This was an increase of 38 percent over corresponding period of 1979. The sideline occupations include raising pigs and cattle and growing fruit trees. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 6 May 80 HK]

EARLY RICE--According to reports from various areas in Jiangxi, early rice seedlings in many areas are not growing well after transplanting. This will further affect the timing of transplanting the double-cropping late rice. (Sun De), director of the Jiangxi Agricultural Office, has provided methods for overcoming this problem, rain and low temperature. [HK150445 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 8 May 80 HK]

CSO: 4007

BRIEFS

AFFORESTATION WORK--As of 30 April, Jilin Province had afforested 1,050,000 mu of land, accounting for 53 percent of the annual plan, and has raised saplings on 170,000 mu of land, fulfilling 73 percent of the annual plan. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 4 May 80]

CHEMICAL FERTILIZERS--All agricultural departments in Jilin Province are busily supplying materials to rural areas to meet the need of spring farming. By the end of March, 654,000 tons of chemical fertilizers were supplied to communes and brigades, an increase of 220,000 tons over corresponding period in 1979. All the nine marketable grain base areas in the province such as Yushu, Nongan and Shuangyang counties, can have an average of 50 jin of chemical fertilizers applied to each mu of farmland. More than 3,200 tons of agricultural plastic sheeting were supplied to the rural areas as well. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 16 Apr 80]

ENTERPRISE OUTPUT FIGURES--In 1979 there were some 19,400 enterprises run by communes and production brigades in Jilin Province. Their total output value in that year amounted to 860 million yuan and the total profit 103 million, showing increases of 21.1 percent and 21 percent respectively compared with the 1978 figures. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Feb 80]

SHUANGLIAO COUNTY SPRING SOWING--Shuangliao County in Jilin Province has done well in spring sowing using machinery. As of 20 April the county had sown some 25,300 mu of various crops. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 26 Apr 80]

CSO: 4007

BRIEFS

AGRICULTURAL AVIATION--Liaoning Province began to apply aircraft in 1972 in agricultural production, forestry and animal husbandry. Aircraft are used to spread liquid fertilizer and manures for insect control and prevention on sorghum, corn, rice and soybean crops; for experimental rice transplanting and weeding, forest fire prevention and artificial rainfall. Liaoning aircraft have completed missions over 10 million mu. Aviation may be able to raise grain output by from 5 to 10 percent and labor productivity by 11 times, and to reduce the cost of rice transplanting by 23 percent compared to manual transplanting. [Shenyang Liaoning Provincial Service in Manadarin 2200 GMT 7 May 80]

COTTON PLANTING--Liaoning Province planted 500,000 mu of cotton last year with per mu yield of ginned cotton reaching 60 jin, an all-time high. The province planned to plant 600,000 mu of cotton this year. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 16 Apr 80]

AFFORESTATION WORK--Spring afforestation is in full swing throughout the province. As of now some 30 million trees have been planted, covering more than 1 million mu of land. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 17 Apr 80]

FERTILIZER PRODUCTION--Liaoning Province overfulfilled the phosphate fertilizer production plan for the period from January to April. A total of 215,800 tons of phosphate fertilizer were produced by the fertilizer plants at and above the county level. This surpassed the 160,000-ton target which the provincial CCP Committee set to meet the need of spring farming. [Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 10 May 80]

CSO: 4007

BRIEFS

DEMONSTRATION PASTURE FARM--The demonstration pasture farm in Ongniud Banner, a project of the UN development program, was put into production this year. The project for building this demonstration pasture farm consists of three parts: From 1979 to 1981, about 50,000 mu of grasslands and grazing ground are to be built; between 1982 to 1983, the problem of an imbalance of fodder grasses in various pastoral areas is to be solved; and between 1984 to 1985 the question of specialization and collectivization in the management of pasture farms is to be solved. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 8 Apr 80]

SUGAR BEET PRODUCTION--During the 1979-1980 sugar beet processing period, a total of 55,000 tons of sugar was produced in Nei Monggol region, marking a 36 percent increase as compared to that of last sugar beet processing period. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 7 May 80]

ANIMAL HUSBANDRY--The animal husbandry front of Chen Barag Banner in Nei Monggol Autonomous Region has succeeded in protecting some 300,000 head of livestock to tide over winter by combating natural calamities. Its animal survival rate has reached 96 percent. The middle of April was the banner's busy season in lambing, in which the banner scored the lamb survival rate more than 95 percent. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 2 May 80]

CSO: 4007

BRIEFS

HANZHONG PREFECTURE RICE PRODUCTION--Xian, 11 May--Hanzhong Prefecture, Shaanxi, increased rice output by more than 100 million jin last year, thanks to the dissemination of results of agricultural science and techniques. Since 1976 the prefecture has disseminated hybrid rice, and in 1979 the acreage for hybrid rice was expanded to 288,400 mu, with per-mu yield reaching an average of 1,100 jin. Effective agricultural chemicals have been applied to prevent and cure some serious rice diseases, and rice damage has been greatly reduced. This year the prefecture plans to further expand the acreage for hybrid rice to 550,000 mu. If there are no natural disasters, this measure alone will mean an increase of rice output by 100 million jin. [Beijing XINHUA Domestic Service in Chinese 0137 GMT 11 May 80]

CSO: 4007

BRIEFS

SOIL SURVEY--Initial results have been achieved in a general soil survey in Shandong Province. Thus far, the soil survey has been completed over an area of 11.64 million mu, accounting for 10 percent of the total arable acreage in the province. It is expected that survey work covering 40 counties will be completed by the end of this year. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 16 Apr 80]

IRRIGATION CANAL WORK--After 2 years' effort, the subordinate construction projects for an irrigation canal in northeast Liaocheng County, Shandong Province, were completed and put into operation recently. These projects are constructed to prevent underground water causing salinization of soil in the farming areas. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 Apr 80]

DAM CONSTRUCTION--Seven brigades in Wei County, Shandong Province, recently constructed a 15 meter-long and 1.7 meter-thick dam across the Zuohe River after 1 year's efforts. The completion of this dam has solved the water problem of 5,000 mu of drought-stricken farmlands in the county. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 Apr 80]

ASPARAGUS GROWING--Jinan, 29 Apr--Over 114 tons of asparagus, a perennial plant introduced from the United States in 1974, were harvested this year over more than 25 hectares of land by Weishan Lake in the southern part of Shandong Province. The harvest averaged about 4.5 tons per hectare. The Weishan County food processing factory produced 30 tons of canned asparagus last year, which sold well in many countries, including West Germany, Sweden, Italy, Canada, Japan and the United States itself. To meet increasing demand both at home and abroad, the local government is encouraging farmers to plant more asparagus. Cultivation of the plant is expected to extend to more than 133 hectares this year. Seeds are provided free and land planted with asparagus is free of tax. Technicians are also sent to guide cultivation. Benefiting from a warm climate, good moisture, the alluvial soil around Weishan Lake contains much organic matters most suitable for asparagus growing. [Text] [OW291103 Beijing XINHUA in English 0745 GMT 29 Apr 80 OW]

COTTON SOWING--Shandong Province has by and large completed the sowing of cotton. As of 8 May, some 9 million mu of cotton had been sown. [OW160238 Jinan Shandong Provincial Service in Mandarin 2300 GMT 12 May 80]

YANTAI PREFECTURE IRRIGATION--Jinan, 14 May--Yantai Prefecture, Shandong Province, has increased the storage capacity of its water reservoirs by 160 million cubic meters and expanded the irrigation acreage by over 400,000 mu. [Beijing XINHUA Domestic Service in Chinese 0730 GMT 14 May 80]

CSO: 4007

SHANGHAI

CROP ROTATION INCREASES WHEAT OUTPUT

Beijing RENMIN RIBAO in Chinese 18 Mar 80 p 2

[XINHUA report: "Shanghai Suburbs Popularize Transplanting of Cotton After Wheat Harvest"]

[Text] A planting system that can remarkably increase wheat yields--the transplanting of cotton after the wheat harvest--is being popularized now in each of the counties in the suburbs of Shanghai.

The transplanting of cotton after the wheat harvest is carried out at the end of March or in early April. First, the cotton seeds are sown in nurturing bowls or in seedling beds and are covered with plastic sheets to increase the temperature and propagate sturdy cotton seedlings. After the wheat has been harvested at the end of May, the cotton seedlings are transplanted in the fields.

Formerly the Shanghai suburbs used the direct method of seeding, in which cotton was intercropped with wheat. In this method, each autumn when it was sowing time, rows of wheat were planted on plots reserved for the growth of cotton. At the end of April the following year, cotton was sown between the rows of wheat. This farming method created competition between the wheat and the cotton for fertilizer and light, with adverse effects on wheat yields.

Three years ago, Nanhui County and Chuanshan County in the Shanghai suburbs successfully experimented with transplantation of cotton after the wheat had been harvested. Last year the planted area throughout the suburbs amounted to 380,000 mu. Practice has shown that the use of this planting system can bring increased wheat yields per mu of more than 100 jin. Additionally, inasmuch as the seeding time for the cotton is earlier than in the conventional direct seeding method, the cotton can be made to germinate earlier, grow steadily, and ripen early. Last year, at Zhuangxing Commune in Fengxian County, more than 9,800 mu of cotton, transplanted on land from which the wheat had been harvested, brought average increases in per mu yields of 20 jin of ginned cotton over the direct planting of cotton. Some communes and brigades in the Shanghai suburbs, using the feature of the early maturation of cotton transplanted to fields after the wheat harvest, are doubling crop rape seedlings in cottonfields. This saves on the number of rape seedling fields and increases the transplanted area for late season rice. Last year a total of 90,000 mu of rape seedling fields were saved throughout the suburbs, for an increase of more than 5 million jin in autumn grain yields.

9432
CSO: 4007

YUNNAN

BRIEFS

YUANJIANG COUNTY TOMATO PRODUCTION--Kunming, 12 May--During last winter and this spring, Yuanjiang County, Yunnan, cultivated more than 2,500 mu of winter tomatoes and other vegetables with a total output of over 6.86 million jin. [Beijing XINHUA Domestic Service in Chinese 0143 GMT 12 May 80]

CSO: 4007

ZHEJIANG

BRIEFS

FISHERY RESOURCES PROTECTION--Hangzhou, 8 May--Beginning in 1979, Zhejiang Province has taken measures to protect fishery resources. First of all, all motorized bottom trawlers are not allowed to operate in forbidden fishing grounds. In addition, it has been stipulated that in July, August and September, no motorized bottom trawler is allowed to operate anywhere. The province has also encouraged development of various types of fishing other than trawling and of fish culture. In 1979, the total income of Zhejiang's fishing industry was 260 million yuan, an increase of 60 million yuan over 1978. [Beijing XINHUA Domestic Service in Chinese 0319 GMT 8 May 80 OW]

AGRICULTURE CONFERENCE--The Zhejiang provincial people's government held a telephone conference on 7 May and called upon cadres and masses in rural areas to counter the adverse effect of low temperature and heavy rain this spring and continue to manage spring crops and seedlings of cotton and hemp well. Vice Governor Yuan Fanglie and Vice Chairman of the provincial Agricultural Commission (Yang Hufang) addressed the conference. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 8 May 80 OW]

COTTON SOWING--As of 25 April Zhejiang has sown cotton on 1.3 million mu of fields. Communes and production brigades in the cotton zone are doing their best to insure a full stand of strong cotton plants and a good cotton harvest this year. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 5 May 80 OW]

RAW MATERIALS PRODUCTION--Hangzhou, 10 May--Zhejiang Province has taken effective measures to vigorously develop the production of raw materials for light and textile industries. Last year the province registered considerable increase in the production of silkworm cocoons, tallow trees and spices. This year, the raw materials bases have been expanded. During last winter-spring period, the province reformed and developed 140,000 mu of mulberry farms. This year, it has expanded cotton acreage by 154,000 mu. Acreage of hemp and sugarcane has been increased by 20,000 mu each. Acreage of tallow trees has increased by 62,000 mu. [OW110323 Beijing XINHUA Domestic Service in Chinese 0153 GMT 10 May 80 OW]

PREFECTURE NOTICE--Hangzhou, 14 May--Wenzhou prefectural administrative office in Zhejiang recently circulated a notice criticizing the Wenzhou Sea Fishery Company for arbitrarily raising prices and announcing the confiscation of an illegal income of 21,771.89 yuan from price hikes. Disciplinary action will be taken against responsible persons concerned. [Beijing XINHUA Domestic Service in Chinese 1459 GMT 14 May 80 OW]

TEA CULTIVATION--Hangzhou, 3 May--A new method of tea cultivation, in which yields are higher and come earlier, is spreading in 30 tea-growing counties in Zhejiang Province, east China. By this season, it has been applied to more than 4,600 hectares of land. The method involves a technique of close planting and short pruning. Compared with plantations cultivated with the conventional method, plantations cultivated in the new way grow 3 to 5 times more plants, the bushes are one-third shorter and their high-yielding time comes 5 to 6 years earlier. Tea-growers in the Caoqiao Brigade in Yuhang County used the method to grow 0.1 hectares of tea garden in the spring of 1973. Next year, they reaped 49.5 kilogrammes of dried tea leaves. By 1979, the garden had produced a total of 1,540 kilogrammes of dried tea leaves in 6 years, 6.5 times more than that produced by conventional gardens in the same period. [Text] [OW031657 Beijing XINHUA in English 0743 GMT 3 May 80 OW]

WUYI COUNTY HYBRID RICE--Wuyi County, Zhejiang, decided to plant hybrid rice on 80 percent of its 30,000 mu of intermediate rice fields this year. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 16 May 80]

WENZHOU PREFECTURE SPRING AFFORESTATION--Wenzhou Prefecture, Zhejiang, achieved remarkable results in this year's spring afforestation. As of mid-May, the prefecture had afforested over 620,000 mu, overfulfilling the 1980 spring afforestation plan. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 16 May 80]

NINGHAI COUNTY RICE PLANTING--The Ninghai County CCP Committee, Zhejiang, is making efforts to help the masses solve the question of rice seedling shortage. As of now, the county has again supplied 450,000 jin of rice seedlings to guarantee the planting of early rice on 411,000 mu throughout the county. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 11 May 80]

CSO: 4007

II. PUBLICATIONS

SELECTED NEW BOOKS ON AGRICULTURE LISTED

Beijing QUANGUO XINSHUMU in Chinese Nos 1-4, 1980

[The following 22 titles were selected from the first 4 issues of the 1980 QUANGUO XINSHUMU (New Books Catalogue of the PRC). This catalogue lists recently published books available for purchase in the PRC.]

TITLE : XINSHIQI RENMIN GONGSHE JINGJI WENTI
[Questions on the Economics of the People's Communes in the New Period]
AUTHOR(S): Wang Fenglin [3769 7685 2651]
PUBLISHER: Agricultural Press
PUBLISHED: September 1979
PRICE : 0.63 yuan
SOURCE : Beijing QUANGUO XINSHUMU No 1, 1980 p 3

TITLE : RENMIN GONGSHE DE SUOYOUQUAN HE ZIZHUQUAN
[Right of Ownership and Power of Decision by the People's Communes]
AUTHOR(S): Long [7127], Editor
PUBLISHER: Guangdong People's Press
PUBLISHED: September 1979
PRICE : 0.14 yuan
SOURCE : Beijing QUANGUO XINSHUMU No 1, 1980 p 3

TITLE : NONGYE TONGJI GONGZUO JINGYAN
[Work Experience in Agricultural Statistics]
AUTHOR(S): Edited by the Planning Bureau of the Ministry of Agriculture and Forestry
PUBLISHER: Agricultural Press
PUBLISHED: July 1979
PRICE : 0.23 yuan
SOURCE : Beijing QUANGUO XINSHUMU No 1, 1980 p 3

TITLE : HUAXUE ZAI NONGYE SHANG DE YINGYONG
[Application of Chemistry in Agriculture]
AUTHOR(S): Ma Tongsheng [7456 0681 3932]

PUBLISHER: Jiangsu Science and Technology Press
PUBLISHED: October 1979
PRICE : 0.37 yuan
SOURCE : Beijing QUANGUO XINSHUMU No 1, 1980 p 31

TITLE : ZUOWU YICHUAN YU YUZHONG
[Genetics and Breeding of Crops]
AUTHOR(S): Li Yuanhui [2621 0337 1979] and Song Bangjun [1345 6721 6874]
PUBLISHER: Shandong Science and Technology Press
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AUTHOR(S): Edited by the Shanghai Agricultural Bureau
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AUTHOR(S): Soil Classification Committee of the Chinese Soil Society and
Soil Geography Laboratory of the Nanjing Institute of Soils of
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[Agricultural Meteorological Knowledge]
AUTHOR(S): Edited by Deng Shanlai [6772 0810 0171]
PUBLISHER: Science Press
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AUTHOR(S): Writing and Editing Group for the Handbook on Forecasting Disease and Insect (Infestation) of Agricultural Crops
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AUTHOR(S): Edited by the Institute of Plant Protection of the Gansu Academy of Agricultural Sciences
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AUTHOR(S): Edited by the Wheat Office of the Institute of Grain Crops of Jiangsu Academy of Agricultural Sciences
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AUTHOR(S): Edited by the Hebei Academy of Agricultural and Forestry Sciences

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[English-Chinese Dictionary of Agricultural Chemicals]
AUTHOR(S): Edited by Shi Dezhong [4258 1779 0022]
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AUTHOR(S): Writing and Editing Group for the Concise Dictionary of Agricultural Machinery
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AUTHOR(S): Zhu Jiazhen [2612 1367 2823]
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AUTHOR(S): Chief editor: Ma Yuhua [7456 5148 5478], Nanjing Academy of Agricultural Sciences
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